



# amateur radio

Vol. 35, No. 10  
OCTOBER  
1967

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**25c**

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Four-Station: 1 master, 3 sub-stations. 3 Transistors, 250 mW. Amplifier. Battery operated (Eveready 210), complete with battery, wire, staples and fitting instructions. Price \$19.75.

Two Station Model also available. Price \$10.50.

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## BATTERY SAVER OR A.C. ADAPTOR

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- Filtered to ensure hum-free operation.
- 6 or 9v. (nominal voltage) selected by external switch.

Specifications.—Input: 220-240v. 50 c.p.s. Output DC: 7.75/11v. over no load to full load current range; or 5.6/7.75v. over no load to full load current range. Ripple voltage: 5v. output, 1.5 p.p.m. max. Ripple voltage: 9v. output, 0.5 p.p.m. max. Dimension 3 1/2 x 2 1/2 x 2 in. Price \$10.50.

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"Lamie" Model FT307, 9 transistors, superheterodyne, crystal locked receiver and transmitter, 100 mW. output, 27.240 Mc. P.M.G. approved. Range approx. 5 miles in open country. Price \$59.50 a pair.

"Total" Model TC-911, 9 transistors, superheterodyne, crystal locked, individual speaker and microphone. P.M.G. approved 27.240 Mc. All metal construction, complete with leather case. Range approx. 1 to 8 miles in open country. Price \$80.00 a pair.

Spares Aeriale for above sets, \$2.80 each. Other Spares readily available.

2 Watt and 5 Watt Transceivers are available also. Price on application.

## LOUDSPEAKERS, "PEAK" HI-FI

Type	Size	Frequency C/H	Maximum Input	Price
<b>Twins Cone Types:</b>				
6A7	8 in.	50-16,000	5 watts	\$3.50
8A7	8 in.	50-16,000	8 watts	\$7.50
12A8	12 in.	30-13,000	20 watts	\$16.75
<b>Coaxial Type with "Free Edge" bass cone and horn tweeter</b>				
8CX5	8 in.	30-22,000	15 watts	\$23.75
10CX50	10 in.	25-22,000	20 watts	\$30.00
12TX50	12 in.	18-22,000	25 watts	\$62.50
<b>Single Cone "Free Edge" types:</b>				
5A50	5 in.	50-15,000	5 watts	\$15.00

Please Note.—A7 and A9 types are available in either 8 or 16 ohm Voice Coil. A50, CX50, TX50 and Professional types, 15 ohms only.

## WIDE RANGE TWIN CONE

### LOUDSPEAKERS

5 in. Tweeter, 4,000-18,000 c/s, 15 watts r.m.s., 15 ohm V.C.	—	—	—	\$4.30
8 in. Twin Cone, 40-12,000 c/s, 2, 8, 16 ohm V.C.	8 watts r.m.s., 10 watts peak power	—	—	\$7.50
10 in. V.C. Impedance	—	—	—	\$6.55
12 in. T.C., 45-10,000 c/s, 8 watts r.m.s., 10 watts peak, 2, 8 or 15 ohm V.C. Impedance	—	—	—	\$8.85
12 in. T.C., 30-14,000 c/s (in recommended enclosure), 8 or 16 ohm V.C., 20 watts r.m.s., 30 watts peak power	—	—	—	\$41.50

## S.W.R. METERS Model KSW-10

Specifications.—Standing Wave Ratio: 1:1 to 1:10. Accuracy: Plus or minus 3% scale length. Impedance: 50 ohms and 75 ohms. Meter: 0-100 DC microamperes. Price \$10 inc. tax.

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(Parachute type), 6 volt. Suitable or Burglar Alarms, etc., complete with trip rope, etc. Price \$1.25, post 50c.

# HAM

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## CONTENTS

### Technical Articles:—

A Simple and Effective Noise Limiter	10
Modifications to the B28/CR100 Receivers	5
Modified "Q" Multiplier in HE80 Receiver	10
Sideband:	
"How Can I Get on Sideband?"	7
Several Common Questions	7
Sideband for Contest	7
Which Exciter to Build?	7
Transistorised Regulated Power Supply	3

### W.I.A. Federal Executive:—

Federal Comment: The New "Handbook"	2
Intruder Watch Service	24

### General:—

Correspondence	23
Fifty and Over	20
Obituary	27
Of Jamborees and Cubs and Us	9
Our Hobby Opens the Door to Happiness	17
Position of Planets Linked to Solar Flare Prediction	17
1967 R.D. Broadcast by Hon. Allen Fairhall, M.P., Minister for Defence	12

### Contests:—

Contest Calendar	25
"CO" W.W. DX Contest Rules	20
Ross Huli Memorial VHF/UHF Contest, 1967-8, Rules	11

### Notes:—

DX	19
Federal and Divisional Monthly News Reports	24
SWL	23
VHF	21
Youth Radio Scheme	23

## W.I.A. OFFICIAL BROADCASTS

NEW SOUTH WALES  
VK2WI, Sundays, 1100 hrs. E.S.T.

### VICTORIA

VK3WI, Sundays, 1030 hrs. E.S.T.  
1825 Kc. a.m. 144.5 Mc. a.m.  
3600 Kc. s.s.b. 145.854 Mc. f.m.  
7146 Kc. a.m. 432.5 Mc. a.m.  
53.032 Mc. a.m.

### QUEENSLAND

VK4WI, Sundays, 0900 hrs. E.S.T.  
3580 Kc. 53.995 Mc.  
7146 Kc. 144.36 Mc.  
14.342 Mc.

SOUTH AUSTRALIA  
VK5WI, Sundays, 0900 hrs. C.S.T.  
3.5, 14, 52 and 144 Mc. bands

WESTERN AUSTRALIA  
VK6WI, Sundays,

TASMANIA  
VK7WI, Sundays, 1000 hrs. E.S.T.  
3672 Kc., and re-transmitted by  
representative stations on—  
7146 Kc. 144.1 Mc.  
53.032 Mc. 432.6 Mc.

# THE NEW "HANDBOOK"

**F**EDERAL Executive takes great pleasure in announcing that the new "Handbook" for the guidance of operators in the Amateur Service is now ready for printing.

Behind this deceptively simple statement lies nearly two years of negotiation and discussion between the Institute and the Postmaster General's Department and it is the purpose of this, and subsequent, notes to inform Institute members of the background and results of these negotiations—negotiations which affect all Amateurs in Australia, no matter whether or not they are members of the Institute.

At the Federal Convention held in Melbourne at Easter 1965 several subjects were raised which involved representation to the Department. They included such things as allowable sideband power, t.v.i. and portable operation. It became the job of Federal Executive to pursue these points with the Department and present the Institute point of view.

Accordingly a working party was formed consisting of Messrs. Hull, Williams, Connelley, Owen and Hepburn and for over three months this group met at least weekly and often more frequently. Every aspect of the Handbook was examined in the light of Institute policy and finally a submission was prepared which gave the Institute point of view on such diverse subjects as the status of the Amateur Service, t.v.i., age limits, acceptable sideband power limits, portable and mobile operation, modes of transmission, authority for the erection of masts and many other matters.

As a result of this submission, a series of meetings was arranged with officers of the Department.

At the first of these meetings—chaired by Mr. Eric Neilson (Asst. Director General—Telecommunications) those present were Mr. C. Carrol (Controller—Radio Branch), Mr. K. Buckley (P.M.G.) and Messrs. Williams, Owen and Hepburn of the Institute.

The points raised in the Institute's submission (and many others) were examined in detail and it soon became clear to both parties that a complete revision of the Handbook was necessary. As a result of a series of minor alterations over quite a long period the Handbook had become rather unwieldy and was often either obscure in its meaning or, worse, inconsistent within itself. Furthermore, in some places it did not accurately reflect the Regulations on which it was based and which it purported to explain and expand.

It was therefore agreed that both the Institute and the Department would,

separately, prepare drafts of a new Handbook and compare these drafts at a later date.

This exacting task, which was to occupy nearly all the spare time of the Executive working party for the next four months, was assisted by an analysis of the appropriate legislation (not only of Australia, but also of Britain and the United States) prepared by the Department.

At the second meeting held in November 1965, to review progress, it was immediately apparent that both the Institute and the Department were in complete accord on the philosophy behind the Handbook.

Some minor matters of wording remained to be resolved but both parties were obviously trying to express the same thoughts. With this heartening background, work continued through the Christmas break and a third meeting was held in January 1966, when the now completed drafts were again compared and moulded into a complete whole. A few "toughies"—notably that relating to t.v.i.—remained to be settled but in the main the new Handbook had taken shape. The Department undertook to steer the necessary regulatory changes through the appropriate legal channels and also to produce the final draft of the Handbook.

Due to the low priority accorded these regulatory changes, it was over a year before the Department was in a position to inform the Institute that the Handbook was cleared for printing.

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## FEDERAL COMMENT

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As an interim measure, the situation with regard to the sideband power limit and the preferred method of measurement was clarified by a letter from Mr. Carrol which was printed in the December 1966 issue of "A.R." This letter stated that Australian Amateurs would be allowed a peak output of 400 watts on s.s.b. and also detailed the method of measurement to be used.

At the last meeting—held on 24th August, 1967—the final draft of the Handbook was checked and was equally satisfactory to both the Institute and the Department. Since the printing of the new Handbook will take some time,

the Institute has permission to print in "A.R." those parts of the new Handbook of immediate interest to Amateurs. The list is a long one and over the next few months it is the intention of Federal Executive to cover them in some detail giving both the changes themselves and the reasons for them.

Briefly, however, some of the changes (other than the s.s.b. power limit) are:

Reduction in age limit to 15 years for would-be Amateurs.

Five days /P operation for all classes of licence without prior departmental approval.

Recognition of the Amateur Service as such.

Reduction in log keeping requirements.

Clarification of c.w. examination marking standards.

Reduction of theory examinations to twice yearly.

Wider use of different modes of transmission allowed.

Freedom of choice for frequency measuring equipment.

Prior D.C.A. authorisation of antenna masts no longer a condition of issuing a licence.

The above list is not exhaustive, but serves only to indicate the way in which a wide variety of subjects have been examined and made to reflect present day conditions. Neither does such a list indicate the depth in which each subject was examined.

Between now and the time the new Handbook is actually available on the bookstalls, the Institute has the undertaking of the Central Administration of the Department that the provisions of the Handbook, as they express the policies of the Department, will be conveyed to the Radio Superintendent in each State.

Over and above the changes that have occurred in the rules governing the Amateur Service, there has been another gain which must be to the benefit of the Australian Amateur. That change is one for the better in the matter of relationship between the Department and the Institute. At the present time this relationship is extremely good and based on a mutual respect and understanding that has not hitherto existed.

Provided always that the Institute acts in a responsible and logical manner in seeking advantages for its members, then it will not seek in vain.

—HAROLD L. HEPBURN, VK3AFQ,  
Federal Vice-President, W.I.A.

## TRANSISTORISED REGULATED POWER SUPPLY

K. A. KIMBERLEY,\* VK2PY

**T**HE power supply described in my article "The Thing"—Transistorised" ("A.R." August 1967) has been in regular use at VK2PY. During this time certain modifications have been incorporated into it and hence its usefulness has become even greater.

My power transformer, type ST3884, is rated at 0.5 amp. instead of 2.0 amp. is in the original. Mulled circuit, hence the overload, gear, regulator, required alteration. R4 was increased to 20 ohms 40 watt. A 12 volt 100 mA. lamp (B.P.O. type No. 2) connected across R4 serves to indicate when an excessive load is being drawn from the supply. This modification does not seem to alter the regulation characteristics at load currents below about 250 mA., however the regulation becomes progressively worse at higher loads.

Notwithstanding this slight degradation of its performance, the supply is still quite usable up to a load current of 500 mA. I know of five supplies having been built and all are giving satisfactory results. However, in some cases, the maximum output voltage has been somewhat lower than the design

● Readers are referred to the August 1967 issue of "A.R." page 9 for information on the original transistorised regulated power supply described in the author's article "The Thing"—Transistorised. In this issue he submits details of modifications to the power supply which will be of interest to readers. Also a brief note re transistor testing, using the supply, is included.

## METERING

The fixed range voltmeter has been changed to a multirange function:—

Position	1	0-10 volts
2	0-20 volts	
3	0-500 mA.	
4	0-50 mA.	
5	0-10 mA.	

The best voltage regulation is obtained when the meter range switch is in one of the voltage positions. This removes the meter shunts from circuit.

until the meter under test (M.U.T.) shows full scale and note the actual reading on the "standard".

Return voltage to zero and replace the 100 ohm resistor with one of about 10 ohms and repeat the above for both the 50 mA. and 500 mA. ranges. If the readings obtained indicate that no great errors have been made a start can now be made on the actual adjustments.

Set both the M.U.T. and the "standard" to the 10 mA. position and carefully turn up the voltage control until one of the meters reads 10.0 mA. If the "standard" reads full scale before the M.U.T., the resistance of the shunt is too low and conversely if the M.U.T. shows full scale first the shunt is high.

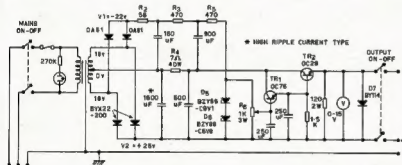
A shunt which is no lower than about 10% may be increased to the correct value by unwinding same and very carefully stretching it. A rewind job will be needed when the above procedure fails or if the shunt is more than 10% out of tolerance. A high shunt may be unwound to give the correct value or another resistor connected across it until the M.U.T. gives the same readings as the standard. The next two ranges are adjusted in the same manner.

**Warning:** Always switch the supply off whilst making adjustments, otherwise you are likely to wrap the meter pointer around the stop. The shunts should be cooled down with a "metho" soaked rag to prevent erroneous results caused by the "thermo couple" effect.

### VOLTAGE RANGE ADJUSTMENTS

The purchase of two only 10K ohms 1% "high stab." resistors is the easiest way of obtaining satisfactory voltmeter results. The internal resistance of the meter adds to multiplier resistance. In my case, the meter resistance was 100 ohms and represents an additional 1% (on the 10 volt range). Hence the actual resistance tolerance becomes minus zero plus 2%. A further possible error of  $\pm 1\%$ , due to the calibration of the meter itself, should also be taken into account. At the worst, the overall error will be minus 1% plus 3% of f.s.d., and should not worry the average Amateur. The 20 volt range will be slightly better as the meter resistance now represents an error of only 0.5%.

(Continued on Page 18)



Original Circuit of the Bench Power Supply for Transistor Circuits.

figure. This is caused by the reference zener diode (S) being lower than 15 volts.

Zener diodes are usually supplied with a nominal tolerance of either 5% or 10%. Naturally the 5% ones are somewhat more expensive. Also due to the sorting methods used, at the factory, the odds are that the resulting diode supplied will be on the low side. However, an increase in the reference voltage is obtainable simply by adding ordinary silicon diodes in series with the zener. Provided that the correct polarity is observed, each silicon diode will give about 0.75 volts extra.

D7 is used as a protective device and is not really necessary, hence this diode could be used as described in the preceding paragraph.

thus keeping the internal impedance of the supply to a minimum. The values shown in the diagram were calculated on the basis of a 1 mA, 100 ohm (i.e. 100 mV.) meter. Different meters may be used providing the shunts and multipliers are altered accordingly. My shunts were wound with the appropriate gauge solderable resistance wire (Eureka, etc.), and adjusted to the correct value.

### CURRENT RANGE ADJUSTMENT

Connect the station multi-meter and a 100 ohm resistor in series across the power supply. Keep the voltage output down to minimum and switch the meter range switch to the 10 mA. range.

At this stage it is wise to keep the standard multimeter, etc., on a higher range. Now carefully wind up the voltage

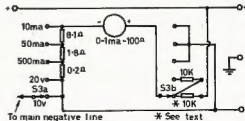


FIG. 1. MODIFIED METER CIRCUIT.

\* 5 Don Street, Newtown, N.S.W., 2042.



# WARBURTON FRANKI

## NEWMARKET PACKAGED CIRCUIT AMPLIFIERS

SPECIFICATION DETAILS:							
Data	PC1	PC2	PC3	PC4	PC5	PC7	PC9
Power Output mW.	150	400	400	400	3W.	800	Pre-Amp.
Input Imped. ohms ...	1.5K	1K	2.5K	220K	1.5K	1.5K	1M
Outp. Imped. ohms ...	40	15	15	15	3	8	800
Supply Volt. —volts ...	9	9	9	9	12	9	9
Typical Distortion % ..	2	3	3	3	3	3	1
Frequency response	300-15K	200-12K	200-12K	200-12K	50-12K	50-12K	20-20K
Overall Dimensions All 1/8" high.	2x1	2 1/2 x 1 1/2	2 1/2 x 1 1/2	2 1/2 x 1 1/2	5 1/2 x 1 1/2	3 x 1 1/2	2 x 1
PRICE	\$5.00	\$6.27	\$6.27	\$6.27	\$12.47	\$7.53	\$4.50
Plus Sales Tax 12 1/2% and Postage.							

### SUGGESTED APPLICATIONS:

PC1—Audio Amplifier, Intercom, Amplifier, Lab. Instr. Amplifier.  
 PC2—Modulator Drive Stage, Church Hearing Aid Amplifier, Tape Replay Amplifier, Mine Communication Amp, Telemetry Audio Amp.  
 PC3—D.C. Relay Driver, Sound-level Meter Amp, Low Power Battery Stereo, Heating and Ventilating Control Amp.  
 PC4—G.P. Amp. and Driver's Office Dictating Machines, Listening Booth Amps.  
 PC5—Portable Audio Amps, Car Radio Audio Amps, Servo Amplifier, Tape Relay Amp, Automation Drive Amp, Burglar Alarm Amp.  
 PC7—Tape Language Lab, Telephone Dictating Machine Amps, Control Amp. for Textile Machinery.

• Write or Call for Data Leaflet.

## PRINTED CIRCUIT COMPONENTS

### COPPER BACKED MATRIX BOARD

Size: 3" x 3" .. .. \$5c  
 6" x 6" .. .. \$1.75  
 9" x 9" .. .. \$3.63

Plus S.T. 12 1/2%. Plus Pack and Post 5c per board.

### PROCESS KIT

Contains: Ferric Chloride, Bituminous Paint, Resin, and Instructions.

68c Plus S.T. 12 1/2%. Plus Pack and Post 10c.

### ALSO PLAIN

### COPPER BACKED BOARD

Size: 6" x 3" .. .. 20c  
 6" x 6" .. .. 36c  
 12" x 3" .. .. 36c  
 9" x 6" .. .. 48c  
 12" x 12" .. .. \$1.24

Plus S.T. 12 1/2%. Plus Pack and Post 5c per board.

## IMPORTED ROSENTHAL HIGH STABILITY RESISTORS

### 1 WATT RATING

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# MODIFICATIONS TO B28/CR100 RECEIVERS

A. M. KEIGHTLEY,\* VK6XY

HAVING received my call sign a couple of years ago, I settled down with a B28 and Gelson and 813, to enjoy Amateur Radio to the full. Some six or eight weeks after the first contact I plunged into my first R.D. Contest, which rapidly showed up the short comings of using the B28 in crowded band conditions today.

After some reflection I decided to embark upon a programme of improvement of the monster, with the stipulation that the full coverage features would not be impaired; firstly to retain the ability to check for spurious responses, which were starting to show up in the form of t.v.i. (that is another story) and, secondly, to continue to be used as a general coverage receiver for short wave listening.

I hope the ideas used prove to be of some use to other B28/CR100 users as well as to other receivers.

## STABILISING OSCILLATOR

First move was to stabilise the h.f. oscillator, so an OA2 VR tube was fitted in an available corner and function switching arranged so that the h.f.o. ran at all times the receiver was on, even when the function switch was "off". The practice had been to turn this off for transmission as muting had not been arranged at this stage. By now drift with voltage changes had improved greatly, but an annoying feature became evident on s.b.s. signals.

When the line voltage jumped up or down by some 5 volts or more, the receiver drifted up or down, as the case may be, quite slowly over a period of a second or so. Considerable reading and discussion suggested that the culprit was the resistance of the cathode coating changing with the changes in temperature. As the cathode was grounded, I decided to try some external R so fitted up a carbon pot. and discovered that about 220 ohms could be introduced without upsetting oscillation on any band. So a 220 ohms 1 watt was wired in. The previous problem had been reduced to negligible proportions.

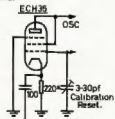


FIG.1. ADDED PARTS.

A further oscillator problem became noticeable for attention in the form of a considerable pulling on 15 and 10 metres. The receiver has a separate oscillator feeding the grid of the triode

section of an ECH35 which now adorned the place of the previous mixer (a 6K8G I think). Reckoning any try was worth while, and not having space for a cathode follower, I tried taking injection voltage from the 220 ohms resistor in the oscillator cathode instead of the previous method. This worked "fine" but calibrations had all jumped up a bit, but nothing a Phillips' trimmer did not fix. The internal resistance was only minor compared to external so was "swamped" effectively.

Now sideband signals could be copied on 10 metres with a.g.c. pulling no problem. So on to the next item.

## SELECTIVITY

A Collins 455 kc. filter came to hand the hard way, so I looked into the possibility of retaining the present arrangement of bandpass switching with the addition of the mechanical filter, but due to lack of space could not achieve this, so ended up removing the crystal filter and associated coils from the first i.f. and introduced the filter as the only connection between the mixer and 1st i.f., but was not happy with 2.1 kc. on a.m., so some fiddling around produced a very workable arrangement, shown in Fig. 2.

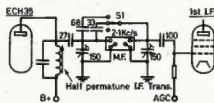


FIG.2. I.F. SELECTIVITY CONTROL.

The grid resistor of 1st i.f. is 0.1 megohm.

The mixer plate feed was via an old i.f. transformer cut in half and adjusted to the frequency of the filter, then the 150 pF. air trimmer peaked up. The two capacitors of 33 and 68 pF. were then switched across the filter for wider bandpass. 33 pF. gave 3.6 kc. without upsetting the shape factor too much, while 68 pF. is good for broadcast band usage. The switch is the section of the passband switch which brought in the crystal filter.

Now the receiver passband is 8 kc., 3.6 kc., 2.1 kc., 2.1 kc., and 100 c/s. with original audio filter. The second 2.1 kc. position was later used to switch in a bridge T filter, which is introduced between the ECH35 and the filter, and takes care of heterodynes very nicely. Details came from R.S.G.B. Circuits Handbook, ex W.I.A., and uses a 12AX7 in conjunction with the other half of the wrecked i.f. transformer.

By now the receiver was performing quite well, but with an eye to future work on it I decided to make a lot more space available by replacing the large quantity of metal encased, under chassis

mounted, 0.1 uF. capacitors which seemed to occupy far too much territory. So out they came, to be replaced by disc ceramics across the valve sockets. This seemed to lift the overall performance, so the old ones must have been overdue for replacement. It is amazing how much extra space became available!

## FITTING A VERNIER DIAL

The tuning with the 2.1 kc. filter seemed quite critical so a Jabel 6:1 ball bearing vernier was fitted on the front tuning shaft and a small bracket made up to secure it to the front panel below the knobs. This was 1" wide metal fitted so that it was very close to the tuning knob, to be out of the way of fingers in a hurry.

This made a fantastic difference and really speaks well of the B28 drive mechanism, as no back-lash is evident. These low priced little verniers should not be overlooked for any such application, they do a mighty job.

## INCREASED GAIN

By now I was feeling fairly happy with things, but felt that gain could be increased with benefit. After playing around with various configurations, I ended up with an 6EH7 in the 1st r.f. position with a.g.c. on its grid and its own gain control in the cathode. This gain control was placed on the front panel above the present r.f. gain control which controls r.f. and i.f. gain.

EF39 valves were fitted to the 2nd r.f. stage and three i.f. stages without any instability troubles, and gain was well up.

## REDUCED MIXER NOISE

There is always a "but" in my "delvings" and this was now internal noise, which was eventually traced to the ECH35. Shorting out the h.f. oscillator and grid one did not change things much, so it left the cathode and grids 2 and 4. After clearing the cathode, I started on grids 2 and 4, put a pot. from this pin to ground and as I wound it around, so the noise went down. Quite a bit of checking ended up with 37 volts on that pin. The mixer noise disappeared and no other problems took its place; signals weak or strong were not upset, so I sneaked quietly onto the next section after taking out the pot. and replacing it with suitable resistors. Probably the high voltage on these electrodes was accelerating electrons to such an extent they bounced off the cathode, creating noise. That's my story and I'm sticking to it!

## MUTING RECEIVER

Muting the receiver on transmission came in for discussion and the B28 handbook circuit used without complaint. All i.f. valves and the 2nd r.f. cathode resistors return to a common line and then to the moving arm of a 2K pot. which was modified as in Fig. 3.

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The upper 2K pot. originally had its lower end on ground. By adjusting the extra 2K pot. on transmit, the receiver is very good to monitor my own transmission. A small socket fitted on the rear of the chassis enables the leads to be taken to the transmitter and relay.

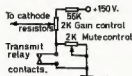


FIG. 3. MUTING CONTROL.

With the present push to talk arrangement in use, the receiver is instantly in the sensitive receiving condition with no delay that some muting systems suffer from.

### DETECTOR

The detection department came in for the next attack. This had not been changed previously as I could see no easy way of switching from product to a.m. detector within the existing switching facilities.

diode triode can be replaced by it without any problems of trying to find space for an extra valve, and the extra switching required to change from the usual diode detector to product detector. I find it is very desirable to have an a.m. detector available, as there are still quite a few unstable a.m. v.f.o.'s! To carry on the idea of reducing loading on the last i.f. transformer, the a.g.c. system was changed. This comprises one section of a triode used as a cathode follower. It gets its energy from last i.f. plate to give even further isolation from the b.f.o., and supplies a germanium diode and a series silicon diode as a gate. This also acts as a voltage doubler to give increased a.g.c. voltage and the circuit arrangement (Fig. 5) gives fast attack and slow decay. The extra time constant capacitor is switched into circuit by the b.f.o. switch.

The OA202 has a very high back resistance so decay time is controlled by the value of 2 meg. resistor. The B28 now has both r.f. and the three i.f. valves on a.g.c. and is able to take care of the strongest signals into this shack. In fact r.f. and i.f. gain controls are run flat out at all times, except on

triode in socket and with gain turned down and no signal, set cathode pot. for zero reading and you are in business. This arrangement gives a cut-off at about 4 volts a.g.c. fed to the half 12A7T.

The space for this valve came to hand by throwing the 5Y8G out and putting a pair of silicon diodes, BY100s, under the chassis on a tag strip.

At this stage of development, the receiver is performing very well and seems able to hold its own with most others and better than many, and still retains full coverage. The next project is to complete a stage started quite some two years ago, but shelved, to construct an s.b. extender due to the t.v.i. mentioned earlier. That is to scrap the band 1 which used to tune from 60 to 160 kc. and rewind the coils and bandspread them to cover 500 kc. of some suitable area, either 3.5-4.0 Mc. or 4.5-5.0 Mc., and then some converters to go with it.

This has been a very interesting project so far. It has developed from much rag chewing on 80 metres and quite a bit of experimenting, during which I have learned quite a bit more about receivers and what makes them

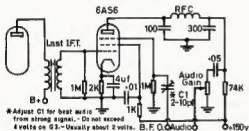


FIG. 4. AM-SSB DEMODULATOR.

A circuit published in the VK6 Bulletin was tried and proved to be ideal. This was developed by the Philco people and after some component changes (Fig. 4) worked better than expected. The original circuit showed how to obtain a.g.c. and S meter from it. Do not persist with these as other circuits work much better for these.

The 6AS6 has an odd grid 3, which has control over the electron stream similar to a grid 1, and its operation as a suppressor is not impaired by being 1 meg. above ground. Feeding the last i.f. into the high impedance of grid 1 instead of the usual diode detector, reduces the loading on its winding and it improves the selectivity in receivers where this is a problem and naturally is able to develop a greater voltage.

Detection of a.m. signals takes place in the grid-cathode area and is amplified in the grid-anode circuit.

To receive c.w. or s.s.b. signals only entails energising the b.f.o. Very efficient mixing takes place in the suppressor-anode area, and a further benefit appears. Grid 2 so effectively prevents b.f.o. signal getting back to grid 1 that a.g.c. action is not affected by b.f.o. voltage at any time.

The 6AS6 is quite able to drive a 6V6G to much greater sound level than I can stand! So this means the usual

80 metres. The overall arrangement maintains between 1 and 1½ volts of r.f. on grid 1 of the 6AS6 on all signals above about S2 signals. The a.g.c. worked so smoothly I decided to put in an S meter, shown in Fig. 6.

### S METER

This circuit has an advantage over many others in that it is impossible to pin the meter once the pots. have been set.

For any other receivers, select a valve which will have a cut-off voltage equal to the a.g.c. voltage of that developed by that rock-crushing signal in the next block. With the valve out of the socket, set the 3K pot. for full scale deflection, then replace the pot. with a fixed resistor of equal value. Replace

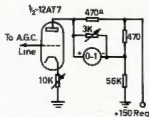


FIG. 6. "S" METER CIRCUIT.

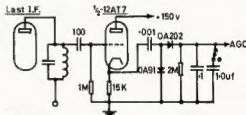


FIG. 5. A.G.C. CIRCUIT.

Note: The OA202 is shown incorrectly. It should have been drawn in the reverse direction.

tick. In writing this I have tried to keep it as simple as possible, and each section separate, so that if any of the ideas appeal, they may encourage someone else to grab a soldering iron and get into it. I am sure you will have quite a lot of fun and the end result will be very pleasing.



### PROVISIONAL SUNSPOT NUMBERS FOR APRIL 1967

Dependent on observations at Zurich Observatory and its stations in Locarno and Arosa.

Day	R	Day	R
1	105	16	32
2	79	17	42
3	54	18	38
4	32	19	55
5	63	20	44
6	53	21	60
7	70	22	70
8	104	23	94
9	67	24	74
10	62	25	65
11	82	26	85
12	91	27	88
13	63	28	70
14	48	29	70
15	31	30	60

Mean equals 65.3.

Smoothed mean for October 1966: 65.8.

Predictions of the smoothed monthly sunspot numbers for the coming six months:

May 84, June 87, July 91, August 84, September 80, October 101.

M. Waldmüller, Eidg. Sternwarte Zurich, Switzerland.



# SIDE BAND

Sub-Editor: PHIL WILLIAMS, VK3NN, 37 Wines Rd., Coromandel Valley, 5051

## SIDE BAND FOR CONTEST

This year the R.D. Contest has come and gone, and it can be said quite safely that the sidebanders dominated the Contest. In previous years the really high scorers used high power on a.m. and "plonked" their carriers on whatever they wished to work, or alternatively just sat with a monumental signal and waited for all and sundry to call in and be worked.

1967 appears to have been the year of the transceivers, and there is no doubt they were effective in getting high scores in a short time. Those of us who are not young still need our sleep and enjoy meals in the dining room, even during Contests. I will not cross swords with the c.w. Contest men, as c.w. is quite obviously the most effective DX Contest medium, especially if you are DX.

## "HOW CAN I GET ON SIDE BAND?"

Since the R.D. Contest I have been approached by all and sundry with the question "How can I get on sideband?" There are several questions which must be asked of the enquirer, such as "Do you wish to build or buy? What have you built in the past? How much can you spend?"

Those who wish to buy are usually told to visit the shack of some acquaintance, ask questions, operate the gear and then read all the equipment reviews to see which gear will provide all the necessary features they need. An example of this is "I won't have vox at any price, but I must be able to get a 500 cycle bandpass filter for c.w. contest work—so whom do you know with such equipment that I can see, and will assure me that 500 cycles is not too narrow as I'm not really sure." Customers such as this are usually easy to satisfy (with advice, at any rate).

## WHICH EXCITER TO BUILD?

And now for the builders—they want to get on sideband using the junk box wherever possible, for which I don't blame them. I usually advise them to try the 9 megacycle phasing generator plus 5.0 to 5.5 megacycle v.f.o., with the possibility of adding crystal oscillators for bands other than 20 and 80 metres. This is a well tried recipe, and if you wish, later you can spend 30 to 40 dollars on a crystal filter—brand of your choice. There are numerous designs published but a well tried one is described in the A.R.R.L.'s Single Sideband Handbooks. The fourth edition has one on p. 71 by John Isaacs, W6PZV. It uses the American McCoy filter with upper and lower sideband carrier crystals. There are others, of course, but these 3 kc. wide filters give very good quality sideband signals.

In the same Handbook is the well known "Sideband Package" design by W8TEU, first described as long ago as 1958 in June "QST". This uses a crystal filter on 455 kc. or thereabouts, using the surplus FT241 crystals. These are not as plentiful as they were 10 years ago, and remaining stocks have been well sifted through for goodies and many doubtless are now being sold. The price of mechanical filters has recently been reduced, so I recommend one be substituted for the crystal filter in the "Package". This could save hours of fiddling with surplus crystals. I have a personal dislike of mechanical filters and the sort of voice quality they produce, but this does not mean that they will not produce an effective signal with the other sideband well suppressed. One mistake people usually make is to place the carrier too high up the skirt of the filter. For the normal voice (male) and a 2.1 kc. wide mechanical filter, the carrier crystal should be set so that the "audio" for the flat-topped passband is from about 500 cycles to 2600 cycles per second.

Again, it is possible to adapt the "Package" design to use a phasing type generator at 2250 kc. This may be done as shown on page 80 of the Sideband Handbook by K4EEU, and page 87 by K9YHT.

If you have ever built an Amateur band receiver, with its mixers, r.f. stages, i.f.s and oscillators (h.f. and b.f.), then you should have no difficulty with any of the above designs. As with the receiver, where the high i.f. will give less problems with images, the exciter generating the sideband at a high frequency of say 5.5 or 9.0 megacycles, will be simple to construct and align. When you use 455 kc. you need to go to double or even triple conversion to get to the desired band and so a few double-tuned circuits will be needed along the way to get rid of unwanted images of the generated signal.

The same rules generally apply to the selection of oscillator frequencies. The levels of the oscillators for mixing s.s.b. signals are usually about 10 times as high as the sideband, so that more care is needed to ensure that their levels are not any greater than essential, and their harmonics do not fall too close to the required output band. Remember the old Irish rule that no harmonic less than the fifth should fall within 20% of the final output frequency. If they do, then you need to "trap" them out, or go to bandpass circuits—and this is enough to scare anybody off.

It will be noted that all of the exciters described use the trusty old 6146s, either one or two in the final stage. These tubes are generally easier to get

going than the i.v. line output tubes such as the 6DQ5. The 6146 is better screened internally and gives less distortion products. With fixed screen voltage of about 210 and 700-800 volts on the plate, about 45 volts of bias is needed to hold the quiescent plate current to about 25 mA. per tube. I have found the 6146 almost indestructible in this service. Should your experience with 6146s in class C with grid leak bias have been as disastrous as mine (globules of molten grids inside the tube), then take fresh heart, because once neutralised they are tame to tune, but very hot performers.

If you build a phasing version, don't forget to study that classical article in the same Handbook, originally written for November 1956 "QST" by Bob Ehrlich, W2NJR (then W0USM), "How to adjust phasing-type s.s.b. exciters". It is still as applicable now as when it was written.

When tackling s.s.b. construction for the first time, allow yourself plenty of room on a large chassis and build in the shielding early in the project. I suggest you re-read page 15 of September 1965 "Amateur Radio" for tips on laying out the exciter chassis.

## SEVERAL COMMON QUESTIONS

The first evergreen question is: "Well, I have operated c.w. for over 40 years but I'm 'danged' if I can get the hang of those pi-network things. Can I stick to link coupling in the s.s.b. final?"

The answer is that it is possible to use link coupling, especially if you are prepared to stick to plug-in coils and variable links so that the loading on the final can be adjusted for optimum. But in these days of shielded finals (to reduce t.v.i. and r.i.) and rapid band switching, the pi-network gives a better means of band changing with one tapped coil and a large broadcast three-gang condenser for a loading control.

But don't expect too much impedance matching range with a simple switched coil. They are usually designed for a nominal 50 or 70 ohms output impedance—all boxed up, and an aerial matching and tuning box is used to bring the aerial back to an impedance of this value.

The second harmonic of an 80 metre s.s.b. signal on 40 metres (or just outside of 40 metres) sounds awful, so if you use the pi-network for convenience, then use an aerial tuner to present the correct load to your final—and reduce your harmonic output at the same time.

And the second question concerns peak ratings of final amplifier tubes and went like this:—

"I had a Heathkit DX100 with a pair of 6146s which took about 140 watts input unmodulated in class C, and on modulation this was 560 watts peak input power. Why can't I run the same peak input on sideband?"

Now, you wouldn't operate these tubes at such ratings in a modulator, would you? Just imagine a class C modulator—no I can't, because it would sound terrible, but class B should be better. Looking at the class AB1 and AB2 ratings in the Handbook shows that AB1 gives 120 watts output and AB2 132 watts (peak) output, the latter

(Continued on Page 17)

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# OF JAMBOREES AND CUBS AND US . . .

A. J. C. THOMPSON, VK4AT

**W**HAT a headache to co-ordinate and launch such a scheme! Yet we see more co-operative effort being put into it each year. In VK4 land, at this particular QTH, the two Amateur Radio stations to be used arrive complete with aerials, gear and rostered operators. They set up in opposite ends of this huge solid timbered Scout-hut and test their gear simultaneously on different bands.

Along comes the Great Day, the Scouts, the Radio Gang and QRM. One transmitter tries to outcrash the QRM on 40 metres while the other finds the long distance 20 metre band to its liking. New Zealand responds and after a few reciprocating exchanges and sundry adjustments the meters suddenly come good and we are off to a good start.

The s.w.r. meter in the aerial circuit registers a tale of woe, so Barrie looks at his 72 ohm coax, with a critical eye and decides on 300 ohms. He mentally pictures the probable activities of his household, then estimates the chances of successfully swiping a hunk off their t.v. 300-ohm lead-in.

No. 2 operator, placidly waiting for detailed instruction on how to handle this (to him) strange rig, is suddenly bundled into the operator's chair, shown the off-on switch, told to turn that knob for gain and chase him with that dial if he moves off frequency. The ZL is loud and clear so the greetings of the Scouts in their queer jargon is banded back and forth. A brisk bargaining on the exchange of badges ensues and then we are off with him and on to Adelaide. Barrie returns in a cloud of dust but with no visible sign of pursuit. He heaves the purloined 300-ohm lead-in through the window and takes over.

The transmitter "loads-up" and all is well. Tension is off for the relieving operators and a quick cup of tea indicated, but they have with them that nagging thought: Now why should a purloined lead-in have jagged ends when the swiper thereof had a perfectly good pair of side cutters in his pocket? It could quite reasonably be assumed that Barrie's "good deed of the day" was to be postponed until tomorrow. His grateful family would then appreciate the quick fixing of the t.v. that had so suddenly gone on the blink. But back to work with a background of rattling cups, voices and the harsh blare of the other transmitter valiantly striving on 40 metres.

Yellourn in VK3 lead is soon busy, bragging about their big hole in the ground and how you can stand on the top and see ant-like movements way down at the bottom. We know the answer to that one. They are ants! Not to be outdone and put to shame when the tall ones are being put over, we have a word with our Scouts and

out goes the tale of the shoppers at the one-mile in the old days who, on very wet days, could go down one mine and come out of another mine almost on the main street. Adelaide seems to be popular. Some sort of a corroboree due to be held there soon, we gather, when the Scouts speak some English.

So here is Adelaide and a heterodyne. Comes a request to shift up 5 Kc. Now how far is 5 Kc. on a strange rig? We give that one up and tell him to go up and call us from there. We have a stab at 5 Kc., gently rocking the dial in wider and wider sweeps then shoot right up the band. We locate his familiar voice just putting it over to us about three times as far up as we expected. Either this rig has a super bandspread or else he just kept going until he found a clear spot to his liking.

We compare his six Scouts with our 20, then discover our 20 are now 40. Now, shall we put them through like sheep at shearing time or trust to his being generous and having a long session? We tell him we have droves of Cubs and Brownies, then call in the eager ones to speak their piece while we cast an appraising eye over their leader. Will she give them confidence by speaking or do they give her confidence? She looks efficient and confident so in she comes and all is well.

Those expectant little faces are not all to be satisfied, even though we coax and cajole the more timid. There are going to be some tears shed over this by the less fortunate and those that we miss. Things are quiet for awhile as a VK2 comes in, but he has only Girl Guides. Our Scouts are not shy and ask for an exchange of badges. A pause and then "they haven't any". We are shocked! How have they acquired the "brush-off" technique at such an early age? A little thought, then we visualise anxious mothers in the background shepherding their chicks. We warn our Scouts not to use slang and make a note on the pad to "bung on" the charm during the next over.

The speaker drones on and we have time to ponder over the symmetrical attractiveness of these Brownies and Girl Guides in their uniforms, without any eye-catching colors. Like the Scouts themselves, their neat appearance must have been evolved by trial and error over many years. Here we have healthy tradition in the making with a whole cross-section of our youth-

ful community taking no part in either wanton destruction or the cult of ugliness. It makes us wonder if the so-called leaders of youth have very willing followers.

But back to work as the speaker suddenly cuts out. A flick of the dial and a glance at the meter puts the trouble at the other end. Probably nervous little fingers have pushed the mike switch over. Back he comes with a rush to murmur 73 to us all and he is off.

It is CQ for us now in the hope of DX, but the answer comes from Narandera. We puzzle over a town in Victoria having a 2 call sign, but when he says he is about half-way between Melbourne and Sydney we decide it must be on the border. Some of our small fry at the back insist on it being in the Riverina but we ignore them. We make a note on the pad to bring an atlas next time. It would help on this job if the operator was a school teacher and a trained detective with a couple of years spent on psychology and a few months in a churm school.

And thinking of detectives reminds us of Barrie and that severed lead-in. He must have had some doubts about his family waiting for him to fix that t.v. In that case the local t.v. trouble-shooter might even now be trying to join two jagged ends that dangle 20 feet apart. After sundry tuggings he would have to give visual proof to a very sceptical family that such a state existed. His troubles wouldn't end there either. He would be expected to explain how it went and where it is now.

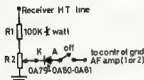
But we have our own troubles, too. We just took a little peek up the band a bit, confident that the transmitter was sitting on the frequency. When too late we remembered that in these silly transceivers the transmitter follows the receiver around like a faithful pup. Now we have lost our station and can't find it. All of our observant off-siders know just where we were sitting so we soon are back on the frequency with the loss of much dignity.

More trouble now, this time from a Victorian. We never even heard of his town but on enquiring we learn that he comes from the Glenrowan district. Now we do know our history even if we are a bit weak on geography. We ask if he is the son of Ned Kelly. He is indignant! He says he is not the son, he is the father. A heated argument flares up at this end. Did he mean that he was the father of Ned Kelly's son or just the father of Ned Kelly? Now we Queenslanders can hold our own when the talk is of big holes in the ground, but when the bragging is about their famous relatives, then we must admit to being properly licked. We hand over to our successors after warning them to beware of these Victorians. They can put it all over us when it comes to telling tall yarns.



## A SIMPLE AND EFFECTIVE NOISE LIMITER

The following circuit was found to be a simple and effective noise limiter. The circuit itself is simple and only requires a few components and is easily incorporated into most existing receivers.



The circuit is actually only a gated clipper, by varying the positive voltage on the cathode of a diode we control the voltage at which the diode will conduct (minimum voltage at which the diode is gated on), thereby limiting the maximum positive voltage swing on the anode.

The values used in the circuit were selected from the junk box and can be varied to suit the builder, but R1 should be kept a high value to (a) limit the current through the pot, thereby limiting the power dissipated in it, and (b) as the voltage on the grid is only small, we only require a maximum voltage of about 10-20 across the pot.

With the values shown in the circuit and a h.t. of 200 volts, the current flowing through the circuit is only 1.8 mA. (approx.). This means the voltage across the pot. is about 19 volts, this

value gave ample control over the diode, also this meant the power dissipated in the pot. was well within its tolerance (much less than 1 watt). The pot. has a switch (s.p.s.t.) so that the limiter can be switched in and out.

The semiconductor diode used was a normal small signal diode of the germanium type.

The circuit was tested in several receivers and worked effectively in all of them and made unreadable signals readable without attenuating the required signal greatly.

—Jim Jones, VK2ZEZ (ex VK3ZEW)

## MODIFIED "Q" MULTIPLIER IN HE80 RECEIVER

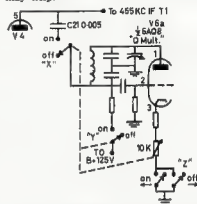
As originally wired, switches X and Y (see diagram) are as indicated and switch assembly Z does not exist, i.e. the 10K potentiometer is connected direct to earth at its bottom end. When the X and Y ganged switches are closed to connect the "Q" multiplier, the whole of the "Q" multiplier is placed in parallel across the primary of 455 Kc. i.f. transformer T1. This detunes this i.f. to the extent that the gain which the "Q" multiplier will supply is all "used up" in making up for the loss caused by the detuning of T1.

So, simply disconnect X and Y from their present positions and bridge these connections permanently. Rewire X and Y into the circuit shown between the 10K pot. and earth as at Z. Realign the i.f. transformer T1. There

should be sufficient slug adjustment available.

(Note that in the HE80 receiver this modification is not successful because the i.f. cannot be peaked after the modification.)

If difficulty is experienced in aligning the i.f. of the HE80 a reduction in the value of C21 by a small amount may help.



This modification gives up to 5 S points gain in signal strength when the "Q" multiplier is "on" as compared to its "off" position previously. The increase in "Q" is still quite effective. Try it and see. There are no new components required, just a little soldering and wire.

Paul Rodukoff, WIA-L4017

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ALEX OUTTRIM will take care of your needs during my absence overseas and continue to keep stocks of the following equipment:

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- ★ GONSET Sidewinder 2 metre SSB/AM Transceivers. \$400.
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- ★ 12V. DC-DC Imported Mobile Power Supplies for Transceivers. \$30.
- ★ HEATH HA14 all-band 10-80 metre Linear Amplifier and AC Supply Kits. \$225.
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- ★ NEWTRONICS 4-BTV 10-80 metre all-band self-supporting, Base Station Verticals. \$70.
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Also, perfect used Galaxy III. 20/40/80 Metre Transceivers. \$275.

Hope to be back early 1968 with lots of new ideas and goodies from America, the U.K., the Continent and JAPAN . . . ARIE BLES

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# ROSS HULL MEMORIAL VHF/UHF CONTEST, 1967-8

The Federal Contest Committee of the Wireless Institute of Australia invites all Australian and Overseas Amateurs and Short Wave Listeners to participate in this annual Contest which is held to perpetuate the memory of Ross Hull whose interest in v.h.f./u.h.f. did much to advance the art.

A Perpetual Trophy is awarded annually for competition between members of the W.I.A. in Australia and its Territories, inscribed with the name and life work of the man whom it honours. The name of the winning member of the W.I.A. each year is also inscribed on the Trophy. In addition, this member will receive a suitably inscribed certificate.

## OBJECTS

Australian Amateurs will endeavour to contact as many other Amateurs in Australia and Overseas under the following conditions.

## DATE OF CONTEST

From 0001 hours, E.A.T., 9th December, 1967, to 2359 hours E.A.T., 14th January, 1968.

## DURATION

Any seven consecutive days within the dates mentioned above, not necessarily consecutive. These periods are to be at the operator's convenience. A calendar day is from 0001 hours E.A.T. to 2359 hours E.A.T.

## RULES

1. There are two divisions, one of 48 hours duration, and one for seven days. In the seven-day division, there are three sections:—

- (a) Transmitting, Open.
- (b) Transmitting, Phone.
- (c) Receiving, Open.

2. All Australian and Overseas Amateurs may enter for the Contest whether their stations are fixed, portable or mobile.

3. All Amateur v.h.f./u.h.f. bands may be used, but no cross-band operating is permitted. Operators are cautioned against operating transmitting equipment on more than one frequency at a time, particularly when passing cyphers. Cross-band operation to assist contest working is prohibited.

Such operation will be grounds for disqualification. Cross mode contacts will be permitted.

4. Amateurs may enter for any of the transmitting sections. The seven-day winner is not eligible for the 48-hour award.

5. Only one contact per band per station is allowed each calendar day.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licences.

8. Cyphers: Before points may be claimed for a contact, serial numbers must be exchanged. The serial numbers of five or six figures will be made up of the RS (telemetry) or RST (c.w.) report plus three figures, commencing in the range 001 to 999, for the first contact, and will then increase in value by one for each successive contact. When a contestant reaches 999 he will then commence again with 001.

9. Entries must be set out as shown in the example, using only one side of the paper. Entries must be post-marked not later than 12th February, 1968, and clearly marked "Ross Hull Contest" and addressed to Federal Contest Manager, Box N1002, G.P.O., Perth, W.A., 8001.

10. Scoring for all sections will be based on the attached table. Distances must be shown in the log entry as shown in the example. Failure to make this entry will invalidate the particular claim. Some typical distances are given in the attached table.

11. Logs: All logs shall be set out as in the example and in addition will carry a summary sheet showing the following information:

Name ..... Call Sign  
Address ..... Division  
..... Claimed Score .....

## SCORING TABLE

Distance in Miles	82 Mc	144 Mc	432 Mc	676 Mc	More Higher
Up to 25 Miles	1	1	2	2	20
26 to 50 "	1	1	10	10	50
51 to 100 "	2	5	25	30	100
101 to 200 "	5	10	50	80	200
201 to 300 "	15	15	75	85	250
301 to 500 "	10	20	100	125	300
501 to 1050 "	5	25	200	200	350
1051 to 1500 "	10	50	250	250	400
1501 to 2500 "	20	100	300	300	450
2501 to 3500 "	35	200	400	400	500
3501 to 5000 "	50	300	450	450	550
5001 and over	100	400	500	500	600

Operating Dates ..... (7 cal. days)

Highest Score over a 48-hour period was ..... points.

Operating period, from ..... hrs. E.A.T. / / 6  
to ..... hrs. E.A.T. / / 6

**Declaration:** I hereby certify that I have operated in accordance with the conditions of my licence and abided by the Rules of the Contest.

Signed .....  
Date .....  
12. Entrants not abiding by the Rules of this Contest will be disqualified.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of each section in each VK and Overseas Call Area. The VK contestant who returns the highest score in the transmitting section and who is a financial member of the W.I.A., will have his name inscribed on the Trophy which will be held by his Division for the prescribed period. A Certificate will be awarded to the contestant who shall not be the Trophy winner, and who returns the highest scoring log covering a period of any 48 consecutive hours.

Also, Certificates will be awarded for operating in the Ross Hull Contest and breaking any Australian v.h.f./u.h.f. distance record.

## RECEIVING SECTION

1. Short Wave Listeners in Australia and Overseas may enter for the Contest, but no transmitting station may enter.

2. Contest times and logging of stations on each band are as for the transmitting sections, however there is no 48 hour sub-section.

3. To count for points, logs will take the same form as for transmitting sections, but will omit the serial number received. Logs must show the call sign of the station heard (not the station worked), the serial number sent by it, and the call sign of the station being worked.

Scoring will be on the same basis as for transmitting stations, i.e. on the distance between the Listener's station and the station heard. See the examples given. It is not sufficient to log a station calling CQ.

4. A station heard may be logged only once per calendar day on each band for scoring purposes.

5. **Awards:** Certificates will be awarded to the highest scorer in VK and Overseas countries.

## EXAMPLE OF TRANSMITTING LOG (Brisbane Station)

Date/Time E.A.T.	Band Mc.	Emission	Call Sign	RST/No. Sent	RST/No. Rcvd.	Dist. Miles	Points Claimed
24th Dec 0100 E.A.T.	52	A3(a)	VK7ZAI	58001	58004	1119	10
0110 E.A.T.	52	A3(a)	VK4NG	58002	57051	330	10
0230 E.A.T.	144	A3	VK5ZK	58003	55043	980	25
0235 E.A.T.	144	A3	VK3ZJ	43004	48021	600	25

## EXAMPLE OF RECEIVING LOG (Perth S.W.I.)

Date/Time E.A.T.	Band Mc.	Call Heard	RST/No. Sent	Station Called	Dist. Miles	Points Claimed
2nd Jan 1000 E.A.T.	52	VK5ZDX	83021	VK8KK	1330	10
1025 E.A.T.	52	VK2ZCF	58195	VK5ZAA	2040	25
1110 E.A.T.	432	VK8ZDG/8	57081	VK8LJ/8	80	25
3rd Jan 0500 E.A.T.	144	VK3ZJH	44102	VK1ZCN	1330	50



# 1967 R.D. Broadcast by Hon. Allen Fairhall, M.P., Minister for Defence



**I**N countless radio shacks in Australia today, there is a ring around the calendar. For today is Remembrance Day.

May I begin by recalling one little remembered fact. It is that, in the years before World War II, there operated in Australia a Royal Australian Air Force Amateur Radio Reserve. On the declaration of war in September 1939, the first additions to the manpower strength of the Australian fighting forces came from this group of Radio Amateurs. They were to be the first of a long line of Amateurs who gave their services to their country at war.

Some of them even gave their lives. And in Australia we recall their sacrifice in this Annual Remembrance Day Amateur Contest.

Since Amateur Radio contacts make friendships, and develop international understanding, and because in this field lies the greatest possibility for the future of avoiding war, it seems to me that today's Remembrance Day activity and the promotion of contacts between fellow Australians is a fitting way of serving the memory of those Australian Amateurs whose names appear on the Roll of Honour.

And yet their service in the field was not the only service that Amateur Radio operators rendered to Australia at war.

The fact is that World War II gave birth to much of the electronic technology which now runs our world. In a country which had not previously been deeply involved in the electronic industry, but found itself in wartime need, it was the home-grown skill and experience of Radio Amateurs that largely filled the key roles in laboratories and factories, developing and building the equipment which their fellow Amateurs operated in the field.

Perhaps nothing gives me more pleasure than this opportunity officially to acknowledge, even if belatedly, the magnificent contribution to this country's defence which came from Amateur Radio operators.

It has been my pleasure to be associated with you, officially through Defence and defence production, but even more happily as an active member of the fraternity and if, today, I hold a position of some authority in the Government, it is because my interest in Amateur Radio set me on the high road to that office. But it does permit me to say that the health and growth of Amateur Radio as an advanced technical activity, is of the very greatest value, not only to defence, but to national development, when electronics means so much.

● This is the full text of a special message broadcast throughout Australia on 12th August, 1967, on the Amateur Bands by the Minister for Defence (Mr. Allen Fairhall) on the occasion of the 1967 Remembrance Day Contest conducted annually by the Wireless Institute of Australia.

Mr. Fairhall is a Life Member of the Wireless Institute of Australia and a pioneer of the commercial and amateur broadcasting networks in Australia. Mr. Fairhall operates from Newcastle, N.S.W., on the Amateur call sign of VK2KB.

In France, the government of today operates what might be termed a "national radio school" recruiting to it thousands of technically-minded young men, giving them instruction, supplying them with components for practical instruction, then judging their work. All of this, the promoters say, is to make sure that the electronics industry of that country is not starved of the technical talent it needs.

This is how one modern technologically advanced country values electronic technicians. It could be an example to everyone.

But if we do not have that kind of school, the Amateur Radio could well be a powerful alternative, richly deserving of government encouragement in all of those avenues where government alone can help. Not least of these is in the preservation of Amateur frequency assignments.

It is trite to say that this is the electronic age. But if anybody should be so foolish to regard that as merely another cliché, they need only cast their thoughts over today's activities in travel and transport, in research, design and production, in management, communications and in entertainment. The great common denominator for all of these daily activities is the practical application of electronics.

And to all of this, through his own efforts, the Radio Amateur has an open door. For Amateur Radio is a unique preoccupation. I can't call it a hobby, because it is vastly more than that.

To the technician, amateur or professional, Amateur Radio offers an avenue of scientific study where he can learn by doing. To the more advanced scientist, it offers opportunity to experiment within his resources and to discuss the results of his work with others of like mind.

To others concerned with the philosophical values of human communications, the Radio Amateur has, in most cases, found the answer, not merely through the exchange of signals but in that peculiar and valuable ability to exchange thoughts and ideas with contemporaries in a hundred nations who make up the great democracy of Amateur Radio.

If there were nothing more than that in Amateur Radio it would be enough.

A recent study by the Stanford Research Institute discloses that of the 275,000 Amateur Radio operators in the United States of America, no less than 110,000 of them are associated professionally in some phase of the nation's communications and electronics industry. Of these at least 94,000 attribute their choice of a career to their experience as Radio Amateurs.

Who can say how much of the technological leadership of the United States today is attributable to the Radio Amateur. And again, who can say, here in our own country, industrial growth through electronics has not been vastly enriched by the knowledge and experience of those who have chosen Amateur Radio as a recreational extension of their professional work.

There is something tremendously unique about a recreational activity that acknowledges the active participation of half a dozen heads of state throughout the world, that numbers amongst its adherents the originators and leaders of some of the world's greatest industries, that brings together in a great confraternity of enthusiasts the research scientists of defence and industry, and yet enlists into that same fraternity on equal terms the thousands who see in Amateur Radio a challenge to learning and an opportunity for friendship.

Here is an arena where an operator's telegraphic key or microphone is a passport to instant friendship, where a call will bring—hopefully—an instant reply from a fellow in some distant corner of the world who is immediately your friend "Joe" or "Roberto", Francisco, Pierre or Toshahide, whose name and conversation you will recall when next you meet.

In the whole radio frequency spectrum, there are preserved only narrow Amateur bands, safe we hope from commercialism, but free for the peoples of the world to talk to each other in mutual interest and friendship. Kilocycles for kilocycles, there is no piece of the spectrum that contributes so much to the warmth of international understanding or to the exchange of information as do the Amateur bands. It may be that the days when Amateur operators contributed to the development of new techniques and invention have been overtaken by the enormous growth of technology to which their early efforts made such magnificent contribution. Today, real discovery has moved into the well and expensively equipped laboratories. But the Radio Amateur has a unique opportunity to apply technology, to test theory, and enjoy the doing of it, for surely Amateur Radio is the most rewarding and satisfying of technical activities.

So that, in the Contest which is about to begin, we will remember not only our fellow Amateurs who served their country in war, but those who enrich their experience and devote their talents to a young Australia on the way to industrial greatness.

It is my pleasure to declare this 1967 Remembrance Day Contest now open.

## TEST EQUIPMENT

### S.W.R. METERS

KYORITSU Model K-109 Standing Wave Ratio Bridge, 1:1 to 1:10 a.s.w.r., Impedance 50 and 75 ohms Frequency range 1.5 to 60 Mc. Includes 0-100 d.c. in circle meter \$20.

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Ranges D.C. Volts 0-0.2, 1, 10, 50, 250, 500, 1,000 and 5,000 volts (20K o.p.v.). A.C. Volts 0 to 10, 50, 250 and 1,000 volts (5K o.p.v.). D.C. Current 0 to 0.03, 1, 50 and 500 mA. Inductance 0 to 5,000 Henries. Capacitance 200 pF to 0.02  $\mu$ F. Res. stents 0 to 5K, 500K 5 Meg and 50 Meg Ohms. Omicron minus 20 to plus 22, plus 20 to plus 36 db. (Reference 0 db equals 0.775 volts equals 1 mW across 500 ohms)

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A.C. Volts: Sine wave 0.1v-1,500v, 7 ranges Peak-to-peak 0.0005v, 7 ranges Output (db, m) minus 20 db. to plus 55 db Input Impedance 1.4 megohms

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Resistance: 0.2 ohm to 1,000 Megohms, in seven ranges

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240v a.c. operation. Printed circuit board wiring 5 c.p.s. to 1 Mc., time base oscillator to sweep 10 c.p.s. to 100K c.p.s. to steps with continuous in-between variation. Ideal a.s.b. measurement with coupled r.f. sampling signal. Weight 11 lb.

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Highly sensitive, transistorized Grid Dip Oscillator covering range of 360 Kc. to 220 Mc. Eight color-coded plug-in coils supplied with each instrument. Meter sensitivity 500 d.c. microamps.

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Ratio 7.5:1. Calibrated 0 to 200 (red scale) over 180 degrees. Six 5 bank scales for bend/frequency calibration. Size 6 1/2 x 3 1/2 in. Complete with hairline cursor and black moulded escutcheon and perspex clear front.

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### SLOW MOTION DRIVES

Ideal for use where 1:1 control is impractical. Eddystone Type 882 (as used with Type 998 dial) Epicyclic ball bearing drive mechanism. Ratio 10:1. Smooth back-lash-free operation. Price \$2.45.

Jabel Type 3 8:1 planetary drive. Good quality construction at a reasonable price. \$3.75.

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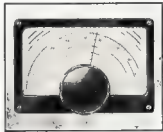


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### GEARED SLOW-MOTION DRIVE ASSEMBLY

A high grade assembly designed for instrument application. The movement is gear-driven and fly-wheel loaded, giving a smooth, positive drive, with a reduction ratio of 110 to 1. The pointer has a horizontal travel of 7 inches. A circular vernier scale, marked over 100 divisions, rotates five times for one traverse of the pointer, and, read with the "100" scale on the dial, provides a total of 500 divisions

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The epicyclic, ball-bearing drive mechanism is of improved design and has a reduction ratio of approximately 10 to 1. The movement is smooth and free from backlash. The dial escutcheon measures 6 in. long by 4 1/2 in. wide plus a 3/16 in. lip. The scale is marked 0-100 over 180 degrees and is 5 in. across. A large fluted instrument knob is fitted. R pole black finish. Ideal for a.s.b. equipment

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Special coil voltages available on request  
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DK60-G and DK60-G2C in de-energized condition  
The DK60-G and DK60-G2C have a special  
isolation connector in the de-energized position  
to reduce cross-talk to a minimum  
VSWR Less than 1.15:1 from 0 to 500 Mc.  
(50 ohm load).

Isolates on Greater than 80 db. at 10 Mc to DK60  
and DK60-G2C, greater than 100 db. from 0 to 500  
Mc. in DK60-G and DK60-G2C when in energized  
position

Operating Time: Less than 30 milliseconds from  
application of coil voltage, less than 15 milli-  
seconds between contacts

Connections: Standard SO239 type v.h.f./u.h.f.  
Co-ax Connectors. Available with Type N,  
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Type DK60 standard single pole	D.C.	A.C.
change-over	\$18.12	\$19.25

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change-over with special	
isolation contact in de-energized	
position on to reduce cross-	\$20.15 \$21.15

Type DK60-G2C, same as DK60	
but includes external set of	
double-pole change-over con-	
tacts	\$20.25 \$21.38

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60-G, but with external double-	
pole change-over contacts	\$21.78 \$23.30

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C32-17 T Connector-Plug and two Jack	
Ends-suit PL259	\$2.33

C32-14 Coupling for two PL259 Plugs	\$1.72
-------------------------------------	--------

Beiling & Lee L734P Co-ax. Cable Plug	35c
---------------------------------------	-----

L904S Co-ax Chassis	
Socket	36c

L903/S Co-ax Chassis	
Socket ground insulated	35c

L734/S Recessed Co-ax.	
Chassis Socket	25c

L734/J Co-ax. Cable Soc-	
ket Bulk-head Cable	43c

L421 Socket	38c
-------------	-----

L616 Coupling couple	
two L734/P Plugs	38c

PT81M (UR87) 52 ohm Co-axial Cable,	
per yard	58c

R028AU 50 ohm Co-axial Cable per yd.	35c
--------------------------------------	-----

PT98A 55 ohm Co-axial Cable per yd.	35c
-------------------------------------	-----

PT77M 70 ohm (LR70) Co-ax. Cable, yd.	35c
---------------------------------------	-----

PT11M 75 ohm Co-axial Cable per yd.	40c
-------------------------------------	-----

FORMULA 11 Open Wire 500 Ohm Trans-	
mission on line 100 ft. coils	\$5.06

K20 72 ohm T.w.n Flat Line	15c
----------------------------	-----

KA47 300 ohm Twis Flat Line (solid or	
slotted)	3c

KA45 360 ohm Heavy Duty Flat Line (solid	
or slotted)	12c



## EDDYSTONE CONDENSERS

476 Split Stator 15 x 15 pF	\$2.20
500 Single Section 13.5 pF	\$1.95
540 Split Stator 23 x 23 pF	\$2.30
584 Butterfly 32 x 32 pF	\$3.25
540 Single Section 91 pF	\$2.50
580 Single Section 140 pF	\$3.90
587 Butterfly 16 x 16 pF	\$3.90
588 Single Section 27.5 pF	\$2.90
589 Single Section 68 pF	\$2.90
739 Butterfly 10 x 10 pF	\$3.25
738 Double Bearing 100 pF	\$3.27
817 Transmitting Type S, Section 270 pF	\$5.15



## VALVE SOCKETS

TELETRON  
BAKELITE  
MOULDED  
AND  
MICA  
MOULDED  
VALVE  
SOCKETS  
SKIRTED  
AND  
UNSKIRTED

S727G 7-pin unskirted bakelite	10c
S727L 7-pin unskirted mica	13c
S729D 8-pin unskirted bakelite	11c
S729L 8-pin unskirted mica	15c
ST470 7-pin skirted bakelite	13c
ST47L 7-pin skirted mica	11c
ST49C 8-pin skirted bakelite	11c
ST49L 8-pin skirted mica	13c
ST48D octal moulded bakelite	10c
ST48L octal mica filled	18c

## CANS FOR SKIRTED SOCKETS

1-9/16 inch Can Length—CS7/1 for 7-pin	15c
CS8/1 for 8-pin	22c
1-15/16 inch Can Length—CS7/2 for 7-pin	15c
CS8/2 for 8-pin	22c
3-3/8 inch Can Length—CS7/3 for 7-pin	15c
2-3/8 inch Can Length—CS8/3 for 8-pin	22c
Ceramic 7-pin Skirted Sockets	30c
Ceramic 8-pin Skirted Sockets	35c
Ceramic Octal, 4-pin, 5-pin, 6-pin stand-	
ard Valve Sockets	ee. \$1.10

## DOW-KEY MANUAL CO-AXIAL SWITCHES

R.F. Ratings: 1 kw to 500 Mc Fine silver finish  
Fitted with u.h.f. type SO239 co-axial sockets

DK78-2 Single Pole two throw	\$18.22
DK78-3 Single Pole three throw	\$18.65
DK78-6 Single Pole six throw	\$20.25
DK78-1 Transfer Switch	\$19.30

## TRANSISTORS AND DIODES

AC107	\$1.00	2N299	\$1.40
AC125	85c	2N270	\$1.24
AC126	85c	2N273	\$1.16
AC127	85c	2N280	\$1.54
AC127/128	\$1.00	2N281	\$1.25
AC127/132	\$1.31	2N301	\$1.59
AC128	85c	2N301A	\$2.35
2 AC128	\$1.0	2N301A	\$3.30
AC132	85c	2N370	\$1.84
2 AC132	\$1.72	2N371	\$1.84
AC172	\$1.00	2N405	\$1.84
AD138	\$2.19	2N373	\$1.43
2 AD139	\$4.21	2N374	\$1.48
AD140	\$2.24	2N405	\$4.4c
*AD145	\$2.25	2N406	64c
2 AD149	\$4.41	2N610	83c
*2 AD149	\$4.40	2N612	83c
AF110	\$2.00	2N594	14c
AF114N	30c	2N567	85c
AF115N	85c	2N568	85c
AF116N	85c	2N1010	\$1.40
AF116NS	85c	2N1327	80c
AF117N	85c	2N1638	83c
AF118	\$1.00	2N1639	83c
AF178	\$2.00	2N2613	88c
AS128	\$1.00	2N2614	\$1.00
BC167	85c	AA119	70c
BC168	85c	2 AA119	70c
BC109	\$1.30	AS25	40c
BF115	80c	BA100	68c
OC26	\$2.55	BA102	\$1.22
2 OC26	\$5.10	BA114	36c
OC30	\$4.10	BA122	50c
2 OC30	\$8.10	BY100	\$1.50
OC44N	85c	CA80	96c
OC45N	85c	CA81	26c
OC57	22	OA85	33c
OC58	22	OA210	85c
OC59	22	CA805	13c
OC60	22	OA810	60c
OC65	22	OA820	60c
OC66	22	OA830	60c
OC70	22	OA850	81c
OC71N	81c	OA852	81c
OC72	81c	OA860	\$1.22
2 OC72	\$1.25	OA870	\$1.40
OC74N	\$2.50	DA874	80c
2 OC74N	\$5.00	DA875	30c
OC75N	\$1.71	1K37A	28c
OC75N	\$1.24	1N817	49c
OC79	\$1.40	1N818	33c
OC189	\$1.83	1N4193	85c
OC170	\$1.83	1N3194	65c
OC171	\$1.80	1N3195	\$1.52
OC975N	\$1.71	1N3190	\$1.50
2N171	80c	1K3233	72c
2N1275	80c	1N3234	60c
2N218	90c	1N3235	\$1.15
2N219	90c	1N3256	\$1.55
2N220	90c	1N3563	\$1.71

\* Supplied with mounting material.

## COIL FORMERS

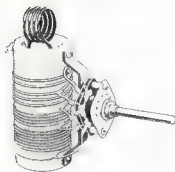
3/4 inch Poly Formers with mounting	
base and iron slug	30c
7/16 inch Paxolin Formers with mounting	
base and iron slug	23c
3/8 inch Poly double slugged I.F. Formers	
with can	81c
Two-pin Polymax G.D.O. Formers with	
winding protective shroud for Induc-	
tances	72c

## NEON LAMPS

GE Type NE51 M.B.C. 110v. Neon Lamp,	
1/4 watt	39c
GE Type NE2 Pig-tail 110v. Neon Lamp,	
1/4 watt	25c

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## PI-COUPLERS



### WILLIS MEDIUM POWER TYPE

For use up to 800 watts p.e.p. Match plate made of 2,000 to 3,000 ohms (2) and higher into co-axial cable. Operating Q increases at higher frequencies to increase harmonic suppression on enabling practical values of tuning capacity to be used on 10 and 15 metres and allowing for wiring inductance (L). Incorporates extra switch section for shunting additional capacity (C) if required, or switching other circuits. Switch rated at 10 amps. at 2,000 volts with contact resistance (R) of 0.5 milli-ohms. Price \$8.85

Geleso Pi-Coupler Type 4/111 for use with parallel 807s, 8140s, etc. 75 watts. Price \$8.85

Geleso Pi-Coupler Type 4/112 for use with single-ended 807, 6140, etc. 75 watts. \$9.84

Geleso Pi-Coupler Type 4/113 for use with parallel 807s, 6140s, etc. 100 watts \$4.37.



### "WILLIS"

### AIR-WOUND INDUCTANCES

Take the hard work out of Coil Winding—use "WILLIS" AIR-WOUND INDUCTANCES

No.	Drum Inch	Turns per inch	Length Inch	B & W Equiv.	Price
108	1 1/2	8	3	No 3002	39c
116	1 1/2	16	3	No 3003	39c
205	1 1/2	8	3	No 3006	70c
216	1 1/2	16	3	No 3007	70c
300	1 1/2	8	3	No 3010	82c
315	1 1/2	16	3	No 3011	82c
408	1 1/2	8	3	No 3014	85c
415	1 1/2	16	3	No 3015	85c
508	1 1/2	8	4	No 3018	\$1.28
515	1 1/2	16	4	No 3019	\$1.28
610	2	16	4	No 3007	\$1.55

Special Antenna All-Band Tuner (Inductance equivalent to B & W. No 3907 7 in.)

7 in length, 2 in diameter, 10 turns per inch \$2.78

References ARRL Handbook 1961, OST, March 1959 "Amateur Radio" Dec 1959.

## A & R TOROID BALUNS

General Specifications. Power Rating—Types A, R C, 200 watts or 400 watts p.e.p., provided the 1:1 ratio is less than 2:1 Construction—Toroidal ferrite cores fully encapsulated with epoxy resin and silver under vacuum. Suitable for use in cold to sub-tropical areas. All except 355C and 356C are provided with antenna insulator support brackets. Balun dimensions approx 2 in. diam x 1 in. plus socket and lug. Weight approx. 3 1/4 to 4 oz.

Installation. When used at the antenna centre, use at least one insulator each side of the brackets and connect antenna leads to Balun terminals with 23/0075 in. or similar flexible wire. (These leads form part of the antenna length.) Types A only. When the Balun and Co-axial Cable are not supported at the centre of the antenna, it will be necessary to tie the co-axial plug to the Balun brackets with nylon cord or wire to prevent the co-axial cable from pulling the plug from the socket.

Type 350A—Impedance ratio 1:1. 75 ohms unbalanced to 75 ohms balanced 3 to 30 Mc. For use at centre of a dipole antenna with co-axial cable feed line or at base and with 75 ohm twin line. Co-axial connector is Belling & Lee L504/5 and lug terminals. Price \$4.25

Type 351A—Impedance ratio 1:1. 75 ohms unbalanced to 300 ohms balanced 3 to 30 Mc. For use at centre of a folded dipole antenna with co-axial feed line or at base and with 300 ohm twin line connector and terminals as 350A. Price \$4.25

Type 352A/B/C—Data as 350A except freq. range 500 Kc. to 5 Mc., or to 30 Mc. for receiving purposes only with increased attenuation. Price \$4.25

Type 353B—This is a type 350 with a co-axial socket SO2338 (Amphenol screw type). Price \$4.92

Type 354B—Type 351 with SO2338 co-axial socket. Price \$4.92

Type 355C—Impedance ratio 2:1:1. 52 ohms unbalanced to 25 ohms unbalanced 3 to 30 Mc. For use at the base of a mobile whip antenna, coupled to fixed or adjustable transmitter output impedance. Lug terminals. Price \$4.92

Type 356C—Impedance ratio 3:1:1. 75 ohms unbalanced to 25 ohms unbalanced 3 to 30 Mc. Lug terminals. Use as 355C. Price \$3.87

## MODULATION TRANSFORMERS

### BRITISH "WOODEN"

Type No.	Audio Wts	R.F. In. Wts	Max. Sec. Current	Price
UM4	30	60	120 mA	\$23.31
UM2	60	120	200 mA	\$30.30
UM3	120	240	250 mA	\$32.80

## MAINS TOGGLE SWITCHES

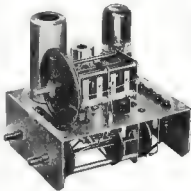
German knife-blade type, self-wiping contact Toggle Switches

Type APR—	1019C single pole changeover	47c
	1019C as above with centre "off"	40c
	1011C single pole "on-off"	30c
	507 two pole "on-off"	65c
	508 two pole changeover and contacts	75c
	519 two pole changeover rear contacts	75c
	559 four pole changeover	\$2.56
	648/2 two pole changeover centre "off"	\$1.96

## PUSH BUTTON PANEL SWITCHES

Type APR—	1212C push to break return "on"	60c
	1213C push to make return "off"	60c
	1315 single pole changeover	\$1.80

## GELOSO V.F.O.



Illustration, Model 4/102

Model 4/104 V.F.O. Unit. Tunes 60, 40, 20, 15, 11 and 10 metres. Complete with calibrated dial and escutcheon. Uses 6CL6 and 6X4 valves. Price (valves extra) \$24.55

Model 4/102 V.F.O. Unit. Tunes 60, 40, 20, 15 and 10 metres. Complete with calibrated dial and escutcheon. Uses 6X4, 6AU6 and 6CL6 valves. Price (valves extra) \$24.55

Model 4/103 V.F.O. Unit. High stability unit using output from relatively low variable frequency generator mixed with the output from a quartz-crystal generator. Low frequency generator covers range of 500 Kc. to 60, 40, 20 and 15 metre bands and 1 Mc. on two sections of the 10 metre band. Uses 6UB, 6AH6 and 6CL6 valves. Suitable for use in a s.b. transmitter. Price (valves and crystals extra) \$38.45

Each model comes complete with calibrated dial, pointer and perspex escutcheon. Full circuit diagram with each kit. Valves and crystals extra.

## GELOSO KIT FOR

### D.S.B. TRANSMITTER

The following components comprise the GELOSO Kit for construction of D.S.B. Transmitter. For circuit details refer Nov 1955 issue of Electronics Australia.

4/105 Crystal controlled Beat Frequency Oscillator	\$28.12
N1607 Calibrated Dial, Pointer and Escutcheon	\$8.30
N4/113 Pi-Coupler	\$4.85
N774 Condenser	\$4.50
N17634 All Wave R.F. Choke	96c

Valves not supplied with V.F.O.  
Valves for V.F.O. 6UB, 6AH6 6CL6.

## LOW PASS FILTERS

A Cabena's Low Pass Filter w.l. f.x 1 v.i. Cut off frequency, 30 Mc., attenuation at 80 Mc. better than 30 db., insertion loss, negligible. Impedance 50-72 ohms. Price \$11.50

## RESISTORS

Cracked Carbon Resistors, 5%, 1/2w	10c
Cracked Carbon Resistors, 5%, 1w	12c

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## PUNCHES



### WILLIS HAMMER TYPE PUNCHES

WILLIS hammer type die punches are made to precise sizes for use in industry wherever a plain, round hole is wanted. Designed to punch down to 14 gauge steel. Centre remnant removed with a file of the hand. Can be used in die press. Special sizes made to order at slight additional cost.

3/8 in.	\$2.40	1-1/2 in.	\$8.00
7/16 in.	\$2.40	1-5/8 in.	\$8.40
1/2 in.	\$2.60	1-3/4 in.	\$7.20
5/8 in.	\$2.60	1-7/8 in.	\$8.00
11/16 in.	\$2.80	2 in.	\$2.40
3/4 in.	\$3.00	2-1/16 in.	\$2.60
15/16 in.	\$3.20	2-1/8 in.	\$6.00
7/8 in.	\$3.80	2-3/16 in.	\$6.40
1 in.	\$3.80	2-1/4 in.	\$6.80
1-1/8 in.	\$4.00	2-5/16 in.	\$6.80
1-1/4 in.	\$4.00	2-3/8 in.	\$10.40
1-3/16 in.	\$5.00	2-1/2 in.	\$11.00
1-1/2 in.	\$5.20	2-3/4 in.	\$11.00
1-5/8 in.	\$5.20	3 in.	\$13.40
1-3/4 in.	\$5.20	3-1/4 in.	\$13.80
1-7/8 in.	\$5.50	3-1/2 in.	\$13.20

## Q-MAX CHASSIS PUNCH

### SCREW TYPE

3/8 in.	\$1.08	1-7/32 in.	\$3.90
7/16 in.	\$2.00	1-1/4 in.	\$3.90
1/2 in.	\$2.00	1-5/16 in.	\$4.00
9/16 in.	\$2.00	1-3/8 in.	\$4.00
5/8 in.	\$2.00	1-1/2 in.	\$4.00
11/16 in.	\$2.50	1-5/8 in.	\$4.44
3/4 in.	\$2.50	1-3/4 in.	\$4.44
13/16 in.	\$3.00	2 in.	\$5.00
7/8 in.	\$3.00	2-3/32 in.	\$5.04
15/16 in.	\$3.00	2-1/2 in.	\$7.92
1 in.	\$3.60	1 in. sq. hole	\$5.56
1-1/16 in.	\$3.60	11/16 in. sq. hole	\$5.32
1-1/8 in.	\$3.60	21/32 in. sq. hole	\$5.32
1-3/16 in.	\$3.60	rect. hole	\$7.02

## "JABEL" TR14 REAMERS

deal for clean finish on small panel holes and cleaning out for neat fit.

Price \$1.05 each

## "ADEL" NIBBLERS

Makes area cut-outs for transformers, etc., as simple as ABC. Price \$7.50

## PENETROX "A"

Ferrous American aluminium and copper corrosion inhibitor. Avoid bad electrical connections and corroded points on beam antennas, TV antennas etc. Use PENETROX "A".

Price \$1 per tube

## C.R.C. FORMULA 2.26 FLUID

For use on electronic and electrical equipment of all kinds. Displaces water and moisture, improves electrical properties. Protects metal surfaces and wiring.

16 oz. Pressure Packs, Price \$3.90

## POWER TRANSFORMERS—Voltage Doubler Types

### ELECTRICAL DATA

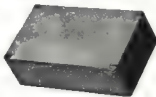
### TYPICAL PERFORMANCE—fully loaded

Type No.	Secondary Volts	Max. D.C. mA.	Heater Windings V	Electrode Series Resistance Ohms	Rect. Min. P + V	Input Cap. Each uF	Admit. Series R	D.C. O/P V5.1s	Price
PT 2062	115 tap 105	80	6.3 CT 2.25	25	400	100	0	290 265	\$7.60
PT 2063	135 tap 125	80	6.3 CT 2.25	29	400	100	0	340 315	\$7.50
PT 2067	120 taps 130	100	6.3 CT 4	22	400	100	0	310 285 260	\$9.00
PT 2084	135 tap 125	125	6.3 CT 2.25	16	400	100	0	340 315	\$10.13
PT 2085	115 tap 105	150	6.3 CT 6	10	400	100	0	290 265	\$10.40
PT 5324	124 taps 114 104	150	6.3 CT 3 6.3 CT 3	17	400	100	0	310 285 260	\$9.75
PT 2066	125 tap 105	190	6.3 CT 6	7	400	100	0	320 285	\$11.23
PT 2068	195 taps 185 175	200	6.3 CT 3 6.3 CT 3	14	600	100	0	500 475 450	\$15.93
PT 1065	115	300	12.6 CT 5	4	400	100	5	270	\$19.80

Conventional Power Transformers also available. Prices on application.

## FILTER CHOKES

Type No.	Inductance Henrys	Max. D.C. mA.	Resistance Ohms	Max. D.C. Working Volts	Type Filter	Price
3040	12	100	280	500	Cond. input	\$3.85
3041	12	125	275	600	" "	\$5.71
3080	2.5	150	125	800	" "	\$3.35
3042	12	150	205	600	" "	\$6.85
3043	12	175	185	600	" "	\$7.40
3044	12	200	165	600	" "	\$9.28
3045	10	250	130	1000	" "	\$10.50
3046	10	300	90	1000	" "	\$13.21
3047	5-15	250-50	70	1000	Choke Input	\$10.80
3190	3 mH.	150	15	R.F. H.T. Choke for use in D.C.-D.C. Converters		85c
3191	0.15 mH.	4 Amp	0.65	L.T. Choke for use in D.C.-D.C. Converters		36c



## INSTRUMENT BOXES

These virtually water-tight die-cast boxes are made of zinc alloy material in four sizes. Each box is supplied with a close-fitting flange lid, securely held with countersunk 4 BA screws. Natural finish. These substantial boxes are invaluable for many purposes. Sizes available:—

Type 6008/P (600)	4 1/2 x 3 1/2 x 2 in.	\$2.79
Type 6827/P (845)	7 1/4 x 4 1/2 x 2 in.	\$4.50
Type 7134/P (806)	4 1/4 x 2 1/4 x 1 in.	\$1.93
Type 903	7 1/2 x 4-11/16 x 3 in.	\$4.85

## TELEPHONE TYPE PLUGS

### AND JACKS

Plug—shielded cover nickel plated C20-1	72c
Plug—insulated phenolic cover C20-3	90c
Plug—shielded cover chrome plated C20-5	90c
Plug—insulated phenolic cover C20-6	50c
Plug— brass P.M.C. type bakelite cover No. 158	71c
Jack sockets for above 1/2 inch mounting bush C20-2	32c
Jack sockets for above 3/8 inch mounting bush C20-4	32c
Plug—miniature telephone type C30-1	35c
Plug—miniature telephone Bulgun P519	50c
Plug—miniature telephone Bulgun P529	70c
Jack socket suit C30-1, P519, P529, J30	54c
Plug—compact insulated cover Bulgun P38	54c
Plug—shielded side entry Bulgun P533	85c
Plug—shielded P.M.C. type Bulgun P538	77c

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Page 17



## Why specify Precision Windings' printed circuits?

As Australian industry moves into an electronic era new applications for printed circuits are developed every day . . . and design engineers expect their printed circuit suppliers to be versatile and flexible.

Constant research and scientific evolution of production techniques at Precision Windings' plant assures first grade manufacture; even relatively small quantities can be produced economically.

PW's photographic process does have many advantages . . . definition is crisp and clear, negatives are readily available for alterations, quality control during manufacture is precise. This is why more and more industrial organisations specify Precision Windings printed circuits.

Delivery is prompt and prices most competitive . . . and advanced technical advice is yours for the asking. Ask for a "no obligation" estimate!



52 Cambro Road, Clayton, Vic.

Tel. 544 7370

## Transistorised Power Supply

(Continued from Page 3)

If you are lucky, the two resistors will have tolerances in the opposite direction and hence the error on the 20 volt range will be even less. However, the lower resistor should of course be used on the 10 volt range and is selected as follows:

For the time being, do not wire in either resistor. Hold resistor A in position and wind the supply output up until the voltmeter indicates exactly full scale. Remove resistor A and substitute B whilst observing the meter indication. The lower resistor gives the higher meter reading.

These extra meter ranges make the unit far more useful and easier to use.

One particularly interesting use is the testing of transistors.

### TRANSISTOR TESTING

#### Small Transistors

(a) Set the power supply at 2.2 volts output.

(b) Connect the collector and emitter leads of the transistor under test (T.U.T.) to the appropriate output terminals.

(c) If at this stage the overload lamp glows, the test is finished as is the T.U.T., i.e. the wretched thing is S.C.

(d) Provided all is okay, switch the meter down through the ranges until an easily readable indication of current is obtained. This reading is generally in the microampere region and is known as the  $I_{sc}$ .

D.c. forward current transfer ratio ( $h_{FE}$  d.c.).

(e) Leave the T.U.T. as in step (b), return meter range switch to the highest position. Bridge a 22K ohm resistor (hand held) between the collector and base connections to obtain a base current of 100 microamperes approx.

(f) Switch the meter down through the current ranges until an easily readable current indication is obtained. This figure (in mA.) multiplied by 10 is the  $h_{FE}$  d.c. Note, higher voltages may be used for the above tests provided that the power ratings of the T.U.T. are rigidly adhered to. Failure to do so will result in the untimely demise of yet another transistor.

#### Power Transistors

The test procedure for these types is essentially the same as outlined above, except that higher voltages and currents are involved.

Take for instance an OC28. I would normally test a transistor of this type with 12 volts between the collector and emitter using a base resistor of 5.6K ohms. This gives a base current of 2 mA. (approx.). The d.c. forward current transfer ratio is obtained simply by dividing the resulting collector current (in mA.) by two. Although power transistors are more robust than the "little fellas", it is still a wise practice to keep the measuring time down to a minimum.

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Sub-Editor ALAN SHAWSMITH, VK4SS  
35 Wyndott St., West End, Br. Abnans, Qld., 4101

Predicted sunspot number for October is 101. This for a DXer is akin to clean cuisine for a gourmet. 21 and 23 Mc. are already open during the daylight hours and a big improvement is expected on these bands. 20 mc. may be the best band at the moment with good paths to Europe around 0700 and 2030s. Africans are also workable. The night circuit to the North West, which is usually very reliable is not operable yet on 14 Mc., but this should appear soon. Some South Americans have been worked on 7 Mc. at 1000 and a little later. Ja and Uva are audible on 80 mc.

#### NOTES AND NEWS

Shelandia is: G3MSVCE on 14183 at 0545.  
Gambia: ZDGO at 0525, transmitting Ref. 14197. Otto KARENZ, QSL Manager for ZDGO, informs us that Ray will be departing Gambia in September or early Oct. This will make ZDGO a tough one, since more. Ray's operation from there is an excellent example of how some serious operating will clean up a rare one in short order.

Alabara: A letter reports that G3UDU is due to arrive in Alabara mid-August. He will be there for six months and will sign G3WNV. John will use a c.w./h.b. transceiver on 10-15 bands. 10-15 mc. There will be no mail service to the island but Maurice G3NWC hopes to be able to QRP requests for QSLs. Vainqueur: V4ACQZ on 14080 at 1800.  
Cocos Keeling: VK3ZCF reports that ZCZT is a phony. Barry is the only legitimately active station on the island now, but is confined to 8 metres.

Beratzonga: ZK1CI will be QRV for three years from here, operating 80-15 phone and c.w. QSOs 1600. He is ex-2LLAW.  
Sakhalin is: UA6SR, UA6FF and UA6FM all busy from Zons 18 on 14 c.w.  
Franz Josef: UA1KED on 14007 at 0200.  
Greenland: Kurt: KP1AA on 14201 at 2210.  
QSL to 1418 Comm. Sgd. P.O., New York, 0908.

Afghanistan: Fred YALFY on 21300 at 1830s.  
QSL to LAJNL.  
Lao: XW4AX, XW5BZ and XW5BJ on between 1640s and 1710s around 2130s.  
Males: Ted 5H1AG on 21300 at 1340s.  
Faroer: The ex-2VWZ on 14100s. QSL to Box 184, Torsavaag, Faeroer.  
VQ1QDQ: Willie of VQ1QDQ fame is now in the relative tranquility of CX. Call via a CQAAAN Logi and QSLs for the VQ1 operation are with W2CIN.

Chad: 2UTAL has plans to operate from here in October or November.  
Mozest: MP4MAY on 14115 at 2000s.  
Lesoto: UHL, long known as Z8SL, now signs TP8AR, the new call for this country. Heard on 14117 listening on 14202 at 0600.

Antigua: Harold, formerly ZDREL, etc., will begin operating from here shortly.

Ethiopia: ER2BA on 14211 at 1400s. QSL to Box 184, Torsavaag, Faeroer.

Pitcairn Is.: Ron W3DWG will be active for approx. six months from here. Most operation will be 21 Mc. a.s.b. with 21350 as the most preferred freq.

Cameroon: Martial TJ1AC on 21324 at 2140s. QSL Box 20, Boufornum, Cameroon.

South Orkney: TPVJJD reported on 14 and 21 Mc. c.w. at 2100 and 1800s.

Andorra: FX1KQ, 1820s on 21394. QSL to DJ3EQ.

Svalbard: Eri J3WNI on 14036 at 0311s. QSL to LAJNL.

Yemen: 4W1C on 14102 at 1820s. QSL to W2CIN.

Tristan da Cunha: ZDZBH on 14229 at 1830s.

St. Helzen: 4XTMR on 14215 at 1200s.

Corsica: Pierre F2WS on 14215 and 14106 at 1900. QSL to home call or via Bureau.

Mozambique: Joe J3MCM on 14211 at 0540s. Also holds call J3AZE. QSL to Jean, Kennedy St., Monte Carlo, Monaco.

Most of the above by courtesy of Dr. Howard Klein, DX Editor of LIDKAA.

Tuamotu Arch.: FO8BU QRV 14103 0615 daily. Marlene Is.: KG8SA 14203 1425. QSL c/o U.S.C.G., 605, Box 358, P.O., S.F., Cal., 94606.

Bismark: Earl J3WNI on 14100. QSL to 14100. Isle of Wight: G3RXC 3.6 a.s.b. 0900.

Easter Is.: CH0AE 14200 0900. QSL WAFPOQ. San Andreas: HK0AI 14165 0900. QSL via WSWKX.

W. Caroline Is.: K0SHV 14205 1300.  
W. Pakistan: AP2MR 14110 1700. AP2HQ 14025 0900.

Guernsey: G3GHT 14135 1400 and various other times. Also G3CFMK 21049 1300s.

Kure Is.: K3HEDY 14271 0730.

Andreanof Is.: K3HEDY 14271 0730. Also for Is.: KL7CQA 14270 0700.

Sib. Georgia: VP8IE 14117 1945. QSL W3GHEK.

Gough Is.: ZD8BH 14117 a.s.w. with QRP sig. Marlon Is.: Z5MNI 14117 1400. QSL Z540L.

(The bulk of the above supplied by Geoff Watts, Editor DX Newsheet in U.K.)

Nile ZICAE active on 80 mc a.s.w. Try around 1.6 at 0900.

St. Helena: ZD7FK 14300 and 21355 around 0700. QSL K3HVN.

Tristan da Cunha: ZD8BH is about to QRT but ZD8BH will carry on. 14 a.s.b. QSL W3GHEK.

Botswana: Z5SL is on 14178 transceive. Comoros Is.: F1HCE 14123 1720, 21340 1800, 28275 1000. Also active is F1HCD.

C.A. Rep.: Z1DL 14108, 14315 after 0800. QSL Box 624, Bangal.

Falklands: VP7PI 14115 2000.

Port Timor: CR8AH 21250 1000 on a.m. mode. QSL J. Santos Leite, Box 225, DUIL.

Mongolia: JT1KAA is reported as consistently strong on 14108. Listens 14300. QSL Box 624, Ulaan Bator.

Fletcher's Ice Island: WA1ARF/KL7 14515 0800.

Trinity Is.: 2L7HNE same here.

(This above received from DX Ed. Geo Studd of N.Z.A.R.T. "Break-In".)

Bay Island: HR3EB is reported very active from here on 14 a.s.b. after 0600.

Taiwan: BV9A is QRV 14 c.w. 3400. QSL P.O. Box 101, Taipei, Taiwan.

Deception Is.: LU2EJ 14010 also on 7 Mc. 1000.

Pakistan: AP2NHEK is reported active now.

Lord Howe Is.: Once again Arch Hewitt will spend his vacation at this tranquil spot. He will be active from Oct. 3 to 20. Mode: AI and mainly 14038, but other bands if conditions are suitable. Call VE3XKZ.

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KG6F, HL1JM, GB3SM, TG6IA, YB1VST, ZL1AI and 5W1AR.

Peter VK4PJ reports various openings on bands 40 through 100 mc. On 14 a.s.b. he lists the following: DL40A, FY3BY, ON41Z, G3FC, UA4KE, 1JRT, 4X4AM, S5E4ZU, IL31LO, GNAS, F3DD, S5SHK, UQ4KBR, F4BQ, KL7WAH, PA5EC, OH4DD, OJ4BDO, LX1WE, HX2, PA4DDE, HX2, FY3BW, LA1, PA4E, PX1E, CE3ZN, FY3APH, CT1ET, OH2BIN, ON4GJ, E1AAZ, GANY, W3DWG/VB8, ZP3AL, VB5W, GFTA and many more.

Peter reports South Americans workable on 7 Mc. at 1030s. (Thanks OM.)

Dud VK4NY logged these. Conditions are on the improve he notes. 14 a.s.b.: VK4HJ 1410 0716 P3CR 1413 0700, W3VW/KVW 1410 008, TG90P 14120 0700, VY1WH 14100 0700, VE3MK 14103 0725, IT1AI 14120 0500, T5C8CR 14100 0600, VB3CR 14110 0500, VQ3G 14100 1511, P3-300, CT114 14100 0828. On 14 c.w.: Z5BHI 14023 0700, 9L1KG 14050 0813, 0WDDO 14050 0730, and more.

Ken VK4TL has a lament. He is running out of countries to work. 14 Mc: 5L2ZT, 5B1UA, DJ1B/LX, VQ3HJ, 9L1QG, 9L1KG. QSLs rec'd were VQ3AR, ON4KA, CR4BC, MP4MAY, CQ4CQ, KX3KEM, 5W1AA, CT3AS, VQ3CA, UA4YKX, C5AAAV, CQ4AN, G3BET, and EL3S.

Keith VK4DU from his Utupian QTH worked the following on 14 c.w. in one hour using 25 watts and doubling in the final: DL4KX, KFTYQ, O27KV, I1AMO, F5VN, WA5THP, G3CQS. Also many QSOs have been made on 21 Mc with less than 1 watt.

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Keith VK4DU from his Utupian QTH worked the following on 14 c.w

## FIFTY AND OVER

BY ROY HARTKOFF\*

VK3ZFC, VK3ZFC, VK3ZFC. This is VK3ZOM Mobile calling you, Bert. VK3ZOM Mobile calling you. Over. VK3ZFC, VK3ZFC, . . . Received you that time quite okay, Bert. The converter seems to be working better now. Yes you heard right I'm mobile. I've been meaning to get round to it for months. That's why I haven't been on the air for the last week or so. I've been too busy getting the gear ready. Hope you can still copy me, VK3ZFC, this is VK3ZOM Mobile listening for you; over. . . .

VK3ZFC, VK3ZFC This is VK3ZOM Mobile returning. Yes, Bert, all copied

\* 24 Toolangi Road, Alphington, Vic.

a hundred per cent. Thanks for the report. Glad to know that it's such a good signal. You say you're surprised at the lack of mobile flutter? Well, Bert, I'm not actually driving along. I'm stationary mobile in the drive at the side of the house. I've got one or two little things to finish off before I can just jump in and drive off. Part of the rig's sitting in the glove box and the rest is on the seats and the floor. But never mind, I've made a start and that's the main thing. VK3ZFC, this is VK3ZOM stationary mobile listening for you; over.

VK3ZFC, VK3ZFC. This is VK3ZOM mobile returning. Glad to hear you like the modulation, Bert. I suppose it is better than most of the mobiles. It's funny that you should say it's almost as good as the home modulator because actually it is the home modu-

lator. I'm going to get another one, of course, but I wanted to get on the air as quickly as I could so I used what I had. As a matter of fact the rest of the rig is the home gear too. It's a bit hard to tune the AR7 when it's sitting on the floor in the back and, of course, there's no room for anyone else in the car except the driver. But never mind, the main thing is to get mobile. One can always fix up the little details later. VK3ZFC, this is VK3ZOM mobile listening for you; over. . . .

VK3ZFC, VK3ZFC. This is VK3ZOM mobile returning. Well, Bert, I must say you have got a good memory. It's months since I told you about the home rig. Fancy you remembering I am running 80 watts! You're quite right. The power supply is a bit of a problem. But I'm not actually worried about running the car battery flat. You see I'm using the home power supply with a mains lead out through the window. That's one of the details I'll have to organise before I can actually operate while I'm driving along. VK3ZFC, VK3ZFC. This is VK3ZOM mobile listening for you; over. . . .

VK3ZFC, VK3ZFC. This is VK3ZOM mobile returning. It's strange you should mention aerials, Bert. No, I'm not using a whip; that's another little detail I'll have to fix. But meantime I figured that since I had to have a mains lead out through the window I might as well have the home aerial lead as well. It saves such a lot of time and trouble. I'm afraid I'll have to stop now, Bert. I've got to clean the car and the leads aren't long enough for me to be able to work mobile at the other end of the drive. Mind you, as I said, there's a couple of little details to fix up, but I've got started and it's fine to know you're operating away from the shack and independent and out in the fresh air with the birds singing and everything. Why don't you go mobile yourself, Bert. It's not as hard as you might think and if you get stuck maybe I could give you some tips. Anyway, you ought to try it some time. VK3ZFC, this is VK3ZOM mobile off and clear and closing down. Cheers, Bert. I'll work you mobile later when I've shifted the car back to this end of the drive. VK3ZOM mobile closing down. Cheers. — . . . —

## "CQ" W.W. DX CONTEST

PRECISE OF RULES, 1967

Dates: Phase, October 31 0000 hrs. GMT to October 31 2400 hrs. GMT. Q.W. November 21 0000 hrs. GMT to November 21 2400 hrs. GMT.

Bands All authorized frequencies between 1.8 and 28.7 Mc.

Cyphers RS/ST plus zones. (30 Eastern Australia, 25 Western Australia).

Scoring: QSO point value: (a) 3 points between stations in different continents; (b) 1 point between stations on same continent but in different countries; (c) contacts between stations in the same country are permitted but zone and/or country multiplier does not have NO QSO point value. Multiplier is determined by the number of zones and countries worked on each band.

Final score: (a) single band, zones plus countries multiplied by QSO points; (b) all band, sum of zones and countries from each band multiplied by total QSO points of all bands.

Divisions: (a) Single operator, all bands OR single band; (b) multi-operator, single transmitter, all band only; (c) multi-operator, multi transmitter, all band only.

Logs to go to "CQ" World Wide DX Contest, 14 Vandewater Ave., Fort Washington, L.I., N.Y. 11505, U.S.A.

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OTL/20

Sub-Editor: CYRIL MAUDIE, VK3ZCK  
2 Clarendon St., Adelaide Heights, Vic., 3054

#### N.S.W. V.H.F. AND T.V. GROUP

The current v.h.f. topic is the work in progress at Dural. The new 2 mhz array comprising four 16-element beams in quadrature is laying down a mighty signal. Reports of satisfactory reception have been received from Canberra, Newcastle and several points west of Sydney. Plans are in hand to increase the transmitter efficiency and this should help raise the signal level in some of the remote regions. Further 2 mhz improvements are in progress including the construction of a converter less prone to cross-modulation.

On 8 mhz Dural now sports a new antenna for 53.586 Mc. This antenna, made and coated by George ZEDR, is a coaxial dipole. The tip of the new 8 mhz antenna is approximately 67 feet above ground, just below the two metre array. At a later date ground-plane radials will be added to this antenna. A worthwhile improvement has been noted in the 8 mhz coverage from VK3ZVJ, one contact being with VK3ZVL mobile in the main street of Newcastle. Keith at the time was radiating four watts of 7.1.

While the direct coverage from Dural is being gradually extended, we must thank those stalwarts who front-up every Sunday to relay these broadcasts on u.h.f. and to the more sheltered areas. Owing to the sheltered nature of the Wollongong Amateurs, the coverage to date has been rather scratchy. However, things may improve as VK3ZND has volunteered to VU up on 144 Mc. and relay back to Wollongong on the Illawarra net frequency of 33.882 Mc.

Any districts not directly, or indirectly, covered by the v.h.f. broadcasts, and who would like to hear them regularly, should contact the V.h.f. Group Secretary, Norm ZKXG. It is possible that we may be able to organise a relay or if time recorders are available a weekly exchange tape of the broadcast.

The 8 mhz event of August was the visit to Sydney of John FK3AAB maritime mobile. John was operating on 81.1 Mc. and tuning 63 to 74 Mc. especially listening to the 8 mhz net frequency. For those who would like to work John, he has only two transmitting frequencies, 53.580 and 53.1 Mc. Whenever his ship, Nickel One, is in Australia waters he will be active on 8 mhz. John will also be active whenever he is in his home port of Noumea.

How many New South Welshmen worked the 6 mhz DX during the Scouting Jamboree on Saturday 10th August? During the pouring rain in the afternoon, VK4s and VK6s were heard at 59 levels, but only working each other on VK3s. Six metre DX sure pops up at the most unexpected times.

Talking of DX, it would seem that one Sydney station is getting set up for the 3 mhz DX season this summer. Ross 3ZRU was recently heard testing his new 3 mhz s.b. exciter and talking about the linear coming up. As Ross has a 60 element array, the locals will hardly miss his signal.

Finally, if these notes appear in time, don't forget the combined c.w. trial and fox hunt on Sunday, 8th October. The fox will be 3ZAU, operating frequency for the hunt being the 53.886 Mc. a.m. net. 73, Keith 3ZAU.

#### VICTORIA

Activity in Victoria is still at rather high level. Melbourne Zone 30 has recently been heard on 3 mhz. 8 mhz is still very popular with most activity during commuting times and at week-ends. Although no DX reports have been received, there have been frequent contacts between Melbourne and the Northern Country areas.

The VK3 V.h.f. Group converter project is well under way and by this time you are reading this "A.R." there should be quite a few units in service. Converters for 2 mhz and 432 Mc. also fully transistomised are in an advanced state of development.

Copies of the VK3 Field Day rules and scoring can be obtained from the V.h.f. Group.

Any readers requiring further information at the VK3 V.h.f. Group's activities should write to the undersigned or the Secretary V.h.f. Group, P.O. Box 36, East Melbourne, Vic., 3002. Until next month, 73, Cyril ZKXG.

**4th Annual V.h.f. Convention:** The VK3 V.h.f. Group will hold its 4th Annual Convention over the week-end of 7th and 8th October, 1967, at Geelong. The V.h.f. Group and the Geelong Amateurs Radio Television Club have combined to organise and arrange the programme for this year's Convention. Don't forget the date: Saturday and Sunday, 7th and 8th October, for the V.h.f. Convention.

**Coming v.h.f. events in VEA Oct. to March:**  
Sat./Sun., 7th and 8th Oct.: V.h.f. Day.  
Sun., 15th Oct.: 1st V.h.f. Field Day.  
Sun., 15th Oct.: 2 Metre Scramble.  
Wed., 18th Oct.: V.h.f. Group Meeting.  
Wed., 18th Oct.: 2 Metre Fox Hunt.  
Sun., 12th Nov.: 2 Metre Scramble.  
Wed., 15th Nov.: V.h.f. Group Meeting.  
Sun., 19th Nov.: V.h.f. Field Day.  
Wed., 23rd Nov.: 3 Metre Fox Hunt.  
Sun., 26th Nov.: 2 Metre Scramble.  
Sun., 17th Dec.: V.h.f. Field Day.  
Wed., 20th Dec.: V.h.f. Group Xmas Party.  
Wed., 27th Dec.: 2 Metre Fox Hunt.  
Sun./Mon., 31st Dec./1st Jan.: VK3/VK3 Field Day.

Sat., 14th Jan.: 2 Metre Scramble.  
Wed., 17th Jan.: V.h.f. Group Meeting.  
Sun., 20th Jan.: V.h.f. Field Day.  
Wed., 24th Jan.: 2 Metre Fox Hunt.  
Sun., 11th Feb.: 2 Metre Scramble and National Field Day.  
Wed., 21st Feb.: V.h.f. Group Meeting.  
Wed., 28th Feb.: 2 Metre Fox Hunt.  
Sun., 10th Mar.: 2 Metre Scramble.  
Sun., 17th Mar.: Final V.h.f. Field Day.  
Wed., 20th Mar.: V.h.f. Group Meeting.  
Wed., 27th Mar.: 2 Metre Fox Hunt.

**Eastern Zone.** Nothing special to report from the Gippsland area. No Es openings observed, and each 28-day cycle is better than the one before and gives a monthly peak average of 26-32 Mc, and often goes as high as 30 Mc. In the Pacific, the Eastern Zone are getting ready for the coming DX season and are looking for 2 mhz a.m. and s.a.b. contacts after 2100 hours each Sunday evening. 73, George ZEDR.

#### SOUTH AUSTRALIA

It is apparent that the majority of operational v.h.f. enthusiasts in VK5 are ardent contest seekers. The support given to the most recent R.D. Contest was extremely gratifying. Many area scores were noted on the v.h.f. bands and those of 527HA, 527AB and 527AC, who spent a considerable amount of time on the bands.

Considering that Limited licensees are now added into that complex arithmetical state scoring formula and providing that all the respective logs are submitted to the P.C.C. by the VK5 v.h.f. operators the State Trophy may again become the property of the VK5 Division for the ensuing year.

Of late Rod 5ZSD ex 6ZDS has been airing his gear as he progressively unpacks his equipment. Barry 5ZAW is also currently refurbishing his gear with an elaborate system of linear amplifiers for both 8 and 5 mhz, utilizing QRS, for use with his s.a.b. exciter. Numerous other Ham shacks are undergoing changes for increased radiated power.

Local activity has been reduced due to the state of building, nonetheless all for a good cause. Continuing, however, is the daily scheduled work of Herb 3NV and Mick 5ZDR to evaluate the propagation characteristics between 144 and 432 Mc. 73, Colin 5ZLF.

#### WESTERN AUSTRALIA

One of the best ever junk sales, with Roy 6RV with the hammer doing a sterling job, should stimulate further activity. Several V.h.f. Group members completed their fox hunt gear or added to it. Valves sold suggested power increases were contemplated in some stations.

Laurie 6ZEA is going to Dirk Hartog Island (near Shark Bay on the W.A. coast) with an expedition party of 30 boys from Wesley College. The party will split into four groups. Linked by radio with Laurie as chief operator. He hopes to set up gear on 8 mhz and is optimistic of making contacts from this radio dead spot.

Activity on 8 and 2 mhz continues mainly on the 8 mhz a.m. net, 53.586 Mc. (crystal frequency 576.644 Mc.). Two metres is a good band and not difficult to build gear for—we should make more use of it in VK6. 73, Laurie 6ZEA.

#### TASMANIA

Not a great deal of news this month as activity is at a low ebb at the moment. It would be greatly appreciated if all correspondence for "A.R." is received at my address, Flat 8, 7 St. George's Square, Launceston, 7250, by the 10th of every month as these notes have to be in Melbourne by 15th of each month.

6 Metres: Activity on this band is mainly confined to the 53.038 Mc. a.m. net frequency. At a time of compiling these notes, no DX has been reported to me.

2 Metres: Activity on this band has been very low this month. This could be due to the cold weather we have had lately, but should pick up as the warmer weather arrives. Bevan 7ZBW has recently acquired some 2 mhz i.m. equipment and is operating on Channel A and B. So you Melbourne i.m. enthusiasts keep an ear open for Bevan when he points his beam in Melbourne's direction.



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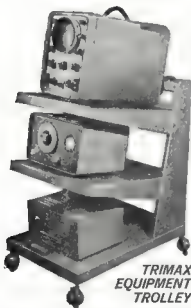
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37/A



Sub-Ed for D GANTLEY, WIA-1002  
P.O. Box 222, Parrish, N.S.W., 2750

The R.D. Contest was the major activity for many listeners during the month of August, and excellent conditions once again prevailed. There were many VKs and VKs to help the recording and some good logs will be submitted.

We look forward to our next contest which will be the VK/ZL World W.A. DX contest to be held over two weeks from 2 October. Details have been published in "A.R." and you are advised to pay particular attention to the rules covering the Contest. It is a very interesting contest, with a very high scoring rate and there is always plenty of good DX to be found.

VK Divisional News. The VK's & W's found the R.D. Contest slightly different from other years. The Melbourne boys appear to favour the club station approach rather than entering the single operator section. The boys on a.m. receivers had a lean time, as most of the stations heard in Melbourne were on s.b. and if you could not resolve it you missed the majority of stations.

The elections for office-bearers for the next twelve months will take place at the September meeting. If you have missed out on attending meetings during the year you will not have seen demonstrations of teletype equipment, v.h.f. fm, reception, tunable i.f. receivers, lasers, Project Australia and the use of Aegia coils, so remember fellows, the lectures for the rest of the year are as interesting as those which have been given previously.

VK Divisional News. Once again I have no official news from this group, and the only report I have is that attendees at the meetings have been very poor, and that any suggestion of advancing the date of the group meeting will be appreciated. I did hear in the broadcast that visits to such places as the O.T.C. Downsides are proposed in future. I can report, however, that all cards received at the bureau have been deposited.

#### DX NOTES

The best news we have had is the appearance of Don Miller from Rodrigues Is. as VQCBSE. After a long hunt I managed to log one of his QSOs. It must have been very helpful to this DX-op to have a VK's signal come up on their frequency calling CQ.

WDWGD/VRS is on the bands, QSL via GSDO for these outside the States. GCFIMV has been on the 30 mhz band s.b. quite regularly around 3 p.m. E.A.S.T. He is on Jersey.

CRGGO is on leave and operating from CTI. ZDZDI was working into Sydney recently. His QSLs go via the R.E.G.B.

Want some good Morse practice? Then look for KHA5As who has one of the best transmissions I have heard.

#### ABOUT THE SHACKS

Peter Drew is down at Balcombe Sligs School. Using an Eddystone EC10, Peter has made a list of the R.D. Contest and recorded some very fine DX as well. On 7 Mc. c.w. W. J.A. VEDZVY, UWOPF, KHSEFW and on s.b. KHSP/LNM, KQ4UBN, HMGAWH, HKJ0J, KICBY, KXNKS QAGQG and GBAOO. On 14 Mc. c.w. KHCILJ, YOSDD, UARKKA, and s.b. SM5VY LXIRH, GJ3JIM TGOPF, RH-KAS CTBET, FOWEB, EAKCB, UCDJF, GEBBI VEDZVY, VPOCF, SWIAB, DULFI and many others. Only other loggings by Peter were on 21 Mc where he logged FB0CK on c.w. ZS0BM, ZEZJA and KRG on a.m. and ZS0FP, KXABN, FRIKX, VKOCR, VKQVM, CRIFM, KAMFE, ZS0CK and ZS4K on s.b. We have been noted on 20 at 1130 to 1300 hours.

Eric Trebilcock has logged his usual issue of good "V.M." (Box 554, Belize) and WZNAU/MM were amongst the debuts on 7 Mr. VYACAP, HCBABE, KAPBEN, HKXIA and ZS0VY, VPOCF, SWIAB, DULFI and many others. Only other loggings by Peter were on 21 Mc where he logged FB0CK on c.w. ZS0BM, ZEZJA and KRG on a.m. and ZS0FP, KXABN, FRIKX, VKOCR, VKQVM, CRIFM, KAMFE, ZS0CK and ZS4K on s.b. We have been noted on 20 at 1130 to 1300 hours.

Some of the more interesting calls I heard on 7 Mc. c.w. were LAJIN, YKIM, YKIM, EABCG, VQCBSE, KXGFM, FB8YU, UGQCF/

UAB, CRGGO/CTI, XEIAAN, ONZGO, FM7MO, VSNMB, GIBXCV, CTIAS, COFFM, VRACR, LUDGPF, XKXCI, TG0PE, TIIQJ and HRAADH. Whilst on s.b. KAZB, CRGGO, CTIAS, YSISRD, VKQGP, ONXKA, OEDH, NMAAX, CTISQ, YSIAQ, GCFIMV, OXWVY, SZALK and VQCBSE. A lone a.m. station was CTIWF. The 20 mhz band has been outstanding at this QTH, the Europeans being heard nightly at around 7 p.m. our time, and still coming in 12 hours later.

Ernie Laif has logged the following on 30 Mc s.b.: UABKQ/P, LAMNK, LUDDM, ZS3HC, ZS3VY, ZS3FP, UWBAB, UABKQ/JTI, ZLSAC, CIPCO, ZSADP, EABN, KILTF, CTIAS, SM7FE, M. VONZ, KZAC, SLICG, 40ITU, KPMAT, EIDZG plus the usual G. etc. Inward QSLs are KXJJE, ZS4P, XGGO, CNF, CSEAAP, VREL, VKZAS, OTYML, SCZELA, UPFNV, UACST, DLKSG, JARGZ and JAOCCA, the latter two being for 18 xz.

Finally, from Mac Island comes news that the 10 mhz band is on the improve, with strong signals coming in from West Coast U.S.A., DU and JA, plus a good signal from PYZAE. Well chaps, that winds it up for this month. In the meantime all the best in the VK/ZL, de Don L2022.

## Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the Publishers.

#### FOREIGN OPERATION

Editor "A.R." Dear Sir,  
I have been advised per medium of "Dialog" - official magazine of the International Amateur Radio Journalistic Society, that following efforts by Cliff Evans, K6BIX, creator of C.H.C. Column, I.A.R.J. etc., liberalisation in operating procedures has been effected in the aforementioned European countries.

Amateurs visiting Hungary can now obtain permission to operate using their own call /HAS. It is not necessary that one's own country has a reciprocal licensing agreement with Hungary. This country's action is unilateral with no strings attached. It is simply a person to person goodwill action.

Also nationals of all countries visiting Yugoslavia may obtain VU7 calls and operate freely without any requirement, or any bi-national treaty.

Good, too, has announced similar actions and relinquished need for any reciprocal treaty. G's who have mobile permits may now operate /M while touring Hungary and Yugoslavia. It is also permissible now that visiting Hams or any Hungarian may send third party messages to Hams elsewhere in the world and vice versa. Same applies to Yugoslavia.

Ham Radio moves one step further ahead.  
—Alan Shawmuth, VKASS,  
Third Vice-President, I.A.R.J.S.

## YOUTH RADIO SCHEME

Another month has gone by in the Y.R.S. and things are really getting into gear with more and more boys becoming interested in radio. Two persuasive letters that visiting Hams or any Hungarian may send third party messages to Hams elsewhere in the world and vice versa. Same applies to Yugoslavia.

The new issue of the N.S.W. Newsletter has been received and is full of news and information. This is a very good effort by the committee and represents much time and co-operative effort. Rog VKIRD has resigned from producing the Newsletter due to the many pressures of the work involved in being Supervisor of the Correspondence Section.

A note of interest is that the Intermediate Syllabus has been revised and now follows the Junior Syllabus a little more closely.

#### ELITE NEWS

VKI Canberra Y.R.C. has had 16 out of 17 students pass the Elementary recently. These will go on to the Junior Certificate. A new class is being formed for the Elementary. VKS There are six new club registrations. W-Union to Newington College, Seaton High, Marist Brothers High, Sydney Teachers' Col-

lege, Lynnham High, and Dee Why. There are now 31 active clubs.

Westlake R.C. David Fraser has received the call sign of VK3ZYK and is one of the few high school students to reach this coveted ambition.

VK3. A general meeting of all member clubs and correspondence members was held recently with over 30 members present representing 60 per cent. of the clubs.

VKA Bundaberg. The boys are still working on their 3w amps.

Maryborough—Office-bearers are President, Paul Ramei, Secretary, Ken Ashford; and Treasurer, Ken Widesays. The club has some serious assembly, crystal set and some very well. There is also a 50w station operating regularly from here as VKANN and can be heard on the net the first Saturday of the month at 9 a.m.

Gympie—There has been some local newspaper publicity for Y.R.S. resulting in three new members.

Clontarf Beach—Some successful experiments are being done with modulated light beams and some good distances have been achieved. 73, Mona.

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# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL

### INTRUDER WATCH SERVICE

You have already heard about a W.I.A. proposal to inaugurate an Intruder Watch Service in Australia in line with similar activity being carried on in Regions I and II. These are the first two years.

Why do we need an Intruder Watch? In theory we don't in practice we should! But in fact we need one because countries DO radiate transmissions in the same way as they would act to have interference to commercial services concerned.

In respect of the latter, Administrations can only do their best to negotiate with the country concerned for the removal of the offending station to an out-of-band frequency; but in regard to the former it should be possible and indeed a reasonable expectation—that an Administration will negotiate for the removal of unauthorised transmissions from Amateur band assignments in the same way as they would act to have interference to commercial services concerned.

There are, of course, problems in the case of the Amateur Service. Firstly, we have multi-frequency assignments in a number of bands throughout the frequency spectrum as compared with single frequency allocations in the case of the commercial service. A report of interference to a commercial transmission can bring prompt action because only one frequency is to be used and dealt with. On the other hand, interference to the Amateur Service concerns a frequency assignment complex which is difficult to imagine will be monitored in hours.

This is where the Amateur and Short Wave Listener can play an important part in effectively monitoring intruder frequencies, and with a standardised and co-ordinated reporting system, assist the Administration in the problem of removing unauthorised transmissions. In this respect, the Amateur and Short Wave Listener Intruder Watch Service and it works to the advantage of the Amateur Service and the various short wave listeners.

The W.I.A. believes the Australian Administration will co-operate in such a system if accurate information can be directed to its monitoring stations.

The British Post Office (U.K.) and the Federal Communications Commission (U.S.A.) co-operate expertly with the Amateur Service representative society on this problem in these two regions. We confidently expect the same co-operation will exist in Australia.

Basically the A.R.R.L. and the R.S.G.B. have the same system of monitoring, recording and reporting. The A.R.R.L. uses a triplicate carbon copy system wherein the Amateur Service reports direct to the F.C.C. the second copy to the A.R.R.L. headquarters, and the third copy is filed by the Intruder Watcher making the report. The R.S.G.B. uses a similar system to achieve the same recorded details of interference.

The American system places the responsibility for accurate reporting on the appointed watcher who forwards the appropriate completed form directly to the F.C.C. at the same time telephoning the Amateur Service representative monitoring station. The R.S.G.B. system, on the other hand, correlates the reports from its watchers and forwards a comprehensive summary to the Amateur Service representative a copy of "traffic" handled by the interfering station. Both Societies circulate regular information bulletins to keep the Divisional Administrations to the members of their Intruder Watch Service.

The W.I.A. Federal Executive has collected all the information on the systems used overseas. From this information will be formulated a satisfactory system suitable to Australian conditions. Before the details are worked out, however, we need to have an organisation to back the system. We will no doubt have little trouble in obtaining the services of the officers of the Divisional Administrations of the detailed information. But the system won't "get off the ground" without a considerable nucleus of Amateur listeners prepared to devote a reasonable amount of time

each day to monitoring interfering transmissions and accurately filling in the appropriate forms which will be supplied by the W.I.A.

This is where YOU—the Amateur and S.W.L.—can play your part in protecting your own band. David Wardlaw, VK3ADW, has been appointed Federal Operations Officer of the proposed Intruder Watch Service. Can you assist to get this project under way? If so, please drop a note in the mail addressed to—

D. Wardlaw, VK3ADW,  
Intruder Watch Service, W.I.A.,  
Box 2611W, G.P.O., Melbourne, Vic., 3001.

Remember, you don't have to be a Licensed Amateur! We would like to encourage S.W.L.s to also participate in this useful service. If you are interested, ACT now!

—G. Maxwell Hull, VK3EZ,  
Federal President, W.I.A.

— . . . —

## FEDERAL QSL BUREAU

The Milan Radio Club sends details of its Milan Award available for contacts with members of the Club or with stations in the Province of Milan. Club members count 1 point and Province stations 2 points. DX stations must earn 10 points for the award. Awards together with 8 L.E.C. to the Awardee Manager, I.R.C.D., Cenzo Resini, Via Rinaldi 12, Milan, Italy.

The L.P.R.A. Panama advise a change of address for all correspondence including the QSL Bureau. The new address is P.O. Box 94-173, Panama 8A, Republic of Panama. The new Inward QSL Manager for the Queensland Division is Jack Scholz, VK4BR, 80 Stephens St., Mornington, Brisbane, Q.C. 4170. Tibby was appointed on the recent demise of our old friend and colleague, Jack Wilson, VK4FJ, Jack held the job down for a score of years, giving the job his undivided attention and knowledge and extending the maximum of co-operation to all his fellow QSL Managers.

Results of the 1966 All Asian DX Contest are just to hand from the J.A.R.L. Australian DX Contest winners listed are VK3S, VK3Z, 3APJ, 3ABA, 3APK, 3CJ and 3GNK.

Traffic through the Federal Bureau for August again increased to over 11,000 cards. Obviously the slump in June was caused by the diversion of shipping from the Suez route to the Cape, as a consequence of the Middle East conflict. While the R.S.G.B., W.Z.A.R.T., D.S.A., D.A.R.C. and some other Bureaux are observing the new VK QSL arrangements, other Bureaux from which big assignments are received, are so far ignoring the instructions. Formerly winners have been sent to the J.A.R.L., the A.R.L. and Box 88, Moscow.

VK3ZM was the first applicant for the 1966 "CQ" mentioned in these notes in August.

—Ray Jones, VK3RS, Manager.

— . . . —

## NEW SOUTH WALES

### COUNCIL NEWS

The President and Councilors have been meeting more frequently than usual, and in the last few weeks working parties of Councilors have been systematically, with the aid of the newly appointed Secretary (Mrs. Long) and Councillor George Wilson, virtually re-writing all the records and completely reorganising the Divisional Headquarters. The filing system is being completed and the banking procedures have been completely overhauled. Ken Finney says that following the appointment of Secretary, "a new look" Division will emerge.

## SILENT KEY

It is with deep regret that we record the passing of the following Amateur:

Ex-VK4CW Jack Worth.

The formation of the Federal Company will mean that the Division will need to be very efficiently run, and N.S.W. will be ready to accept and handle the requests of this organisation with promptness and accuracy. The re-organisation will result in the issuing of back Membership Certificates and members should receive these soon. The issue of Certificates will in future become automatic in the system and go along with the backlog. Council has said that the membership drive is encouraging, but that there are still many more non members and as a challenge Council has suggested a target of 5,000 members this year.

The taped lecture service has now been handed over to the Secretary and all enquiries for the tapes should be sent to the Secretary for attention. The service has 43 lectures on tapes some of which are illustrated with accompanying slides and country and interstate clubs and divisions are invited to use this service. The Morse tape service is a separate set-up and is handled by Ern Hedkins, VK4EH, Mangrove Rd., Narrara. Ern has 186 tapes in circulation. Don't forget to give details of the speed of YOUR recorder, number of tracks and country and state. You can, if you prefer, send your own tape, but allow time for Ern to copy for you.

The President reports that the Bulletin and the General Meetings will in future contain a report of Council activities in order to keep all informed of the Division's happenings and provide details of future events. A minimum of business will be handled at meetings with the emphasis more on lectures and rag-chewing.

### BULLETIN EDITORS

Council has received the notice of resignation of the Bulletin Co-Editors from this position after the publication of the October issue. Gerry Sabat and Warwick Johnstone have both done this most important task for the last five years and have decided to pass on this job to two new Editors. Both Gerry and Warwick are very experienced and experienced which occupies a fair amount of their time. Council very much appreciates the past efforts of the Co-Editors and is seeking to find two new Amateurs to take over the job. If you would like to take a more active part in Institute affairs then here is a position to fill your need.

### EDUCATION OFFICER

Harold Burfoot, the Education Officer, has asked to be relieved of his position after Christmas. Increasing private commitments are hindering Harold to find it difficult to carry on in this position which he has run for the last seven years. Council is seeking someone to take over this position from Harold.

### AUGUST GENERAL MEETING

The August general meeting was held at Wireless Institute Centre on Friday, 26th, being opened by President Ken Finney at 7 p.m. Ken gave a fairly comprehensive report to the meeting of the activities of Council and the Secretary. The President then gave the results of a questionnaire which was given at the meeting last month in order to find out the members' choice of lecture topics. The results were as follows:

Antennae 38 points (14 per cent. of total), transistors 33, solid state r.f. 27, test equipment 25, V.A.F. 34, mobile gear 20, a.s.b. build-up of 20, television which was run for the last 17, a.s.b. theory 18, crystals 13, r.t.t.y. 10, DX and predictions 4 points. Total 233 points.

Further back of the mail was handed out at the meeting, but the results will not be known until later. The lecture being on r.t.t.y. will no doubt influence the result.

The President then introduced the lecturer, Mr. Pat Bennett, who spoke on r.t.t.y. Mr. Bennett had teleprinter machine set up coupled to a tape transmitter and showed how the machine got on. Bennett had some very good slides with him very much to understand the lecture and the audience were quite engrossed in this r.t.t.y. and its possibilities. At the conclusion of his lecture Mr. Bennett showed many and varied questions, and these showed that those present were very keen, and that r.t.t.y. is quite an attractive adjunct to Amateur Radio and could prove to be very popular in the future, depending on the release of

suitable machines to the Amateur ranks. The vote of thanks, duly carried, was moved by Bill ZAGG who apologised for the absence of the President and Council they were meeting on urgent business and the meeting then was formally closed by Bill on behalf of the President.

#### 1968 CONVENTION

As announced earlier, the Convention will be held over the Christmas Day weekend at the end of January. Further details are to be handed regarding the Annual Dinner, the cost of which has been firmly set at \$4.50. Dress for the occasion will be full details will be published in the Bulletin and in later issues of "A.R." when all details are published. The Convention will be held in the hall at the end of January. Details have been decided on yet except that Ken Finney says it will be different.

#### W.I.C.E.N.

Sunday the 20th saw some 30 odd cars and 70 Amateurs and XYLs spend the day at Dural Transmitter, erecting the much talked about tower for the antennae. Unfortunately the tower was not originally dismantled by anyone present so the task of re-assembly was difficult. Considerable ancillary work was carried out by the crew and the tower was completed until 7 p.m. or so. Specially designed antennae for the W.I.C.E.N. net transmitters are to be fitted to the tower shortly.

The room for the Communications Centre at Aethon St. is almost complete and along with the renovation of the lower floor this area is now beginning to look sensible and tidy. 73, Alan ZEDD.

#### CENTRAL COAST RADIO CLUB

August appears to be a month of activity for the Central Coast Branch. The usual monthly meeting was held on Friday, 12th August, but with a most interesting lecture from a Newcastle Amateur, Mr. Ian Frye, VK2ZB, described his single channel and translator transceiver. In keeping with the components, the size of the unit was a mere 7 x 6 x 2 inches and it was a very simple unit. The unit was given, with the assistance of an oscilloscope to illustrate wave forms.

The lecture ended with an active question and answer session, and the issue of printed sheets in the transceiver.

#### RUNTER BRANCH

The September meeting of the Branch, held in the Technical College, was well attended. The speaker for the evening was a lecturer in the manufacture of printed circuits in the shack. Apologising for his recent efforts with bright metal, the lecturer, who had a very good metal and clears any classroom, Lionel gave a most informative discourse on all Amateurs need to know about making their own circuits, both simple and complex. Lionel achieved something which many lecturers hope for but seldom reach, that of audience participation in the display. Less than 20 minutes of our young lads were dispatched to the cich bath, let me reassure you that the participation was in the form of assistance with the design of a simple circuit to be drawn on a 2 1/2 by 3 inch board. Quite a deal of discussion ensued and the final design was the joint effort of everyone in the room.

Surrounded by the tools of the trade, including an electronic radiator, several large plastic containers, cans of spray, chemicals and butane gas, not to mention stencil knives and the rest, Lionel made short work of painting the design and etching the circuit whilst the lecture was in progress. Even the old men of printed circuit, Ian ZIIF and Tony CTC, reported that they had learned something new and everyone went away delighted after carrying with acknowledgement the vote of thanks moved by Bill ZZW.

During the business section of the meeting, President Frank ZIIF outlined the programme for the Field Day to be held this year at Bolton Park on Lake Macquarie on Sunday, 15th October. The programme of highlights and prizes for Amateurs and S.W.'s as well as events for the ladies and entertainment for the children was outlined. It was noted that the day looks like being another winner for the Branch. Henry ZIGKE, well known cooker of hamburgers, has decided to extend his field of membership and has decided to provide a Friday meal for all attending the ground. The cost of this will be included in the registration fee for the day of \$1 per adult and \$0.50 for children under 14 including children under 14. Children under 14 and any unaccompanied children will be charged \$0.50 for registration.

Activities will commence with a 2 mhz fox hunt, and a 1000 watt registration. 1005 The hunt will end at 1655 in time for the

broadcast from 24V1, and the next event, a 40 mhz hunt will commence at 1135 and end at 1230. A lunch break will be made from 1230 to 1330 and the first afternoon event will be an all-band mobile scramble from 1335 to 1435. At 1435 and lasting till 1545 a marathon three-transmitter 2 mhz hunt will be held and prize giving will be made at 1655. During the day, pedestrian fox hunts and novelty events will be run, in addition to the usual quizzes. Some liquid refreshments for the thirty hunters will also be available. Registration for the event may be undertaken at any time prior to or on the Field Day and all details may be had from Gordon ZEGG, 15 Marine View, Newcastle N.S.W. 2300.

Since the installation of the new mast and co-linear aerial for 2 mhz i.s., at the Westhams Radio Club, Teraham, signal reports from many parts of Newcastle have been most encouraging. It appears that, except for some shadowed areas, a good overall coverage is now possible. This will mean local conditions for relay of the Hunter Branch broadcasts from and to the club.

Activity on the bands during the R.D. Contest was quite good and some oddham home call signs were evident. Jan ZIJO operated the 12AWK rig and made 101 points, while several other calls including 3A8A/MCW (standing for merrymaking) were busy at it.

And amid all this activity, there must be some who have made something new and delightful during the year. Well, here's your chance to air the design and build at the October meeting of the Branch to be held in room 6 of the Clegg Building, Newcastle Technical College, Tynes Hill, on Friday, 6th October. This is the annual home-built equipment competition and Branch members are invited to take part for a prize to be given at the Field Day. So come along and join in the merrymaking with such as I who will be describing my one transistor amplifier built in a matchbox. Oh! and you won't forget the Field Day will you. See you, 73, JACK.

#### VICTORIA

The August meeting of the Victorian Divisional Council was held on Monday 26th. Apologies were received from John Beckett, VK3RE, and Mike Owen, VK3ZEO. Members arriving early were served a warming bowl of coffee from a hot drink dispenser which is of a similar type to one which the Division has decided to buy to ease the problem of

### VICTORIAN DIVISION, V.I.A. ANNUAL DINNER

will be held on  
FRIDAY, 3rd NOVEMBER

in the  
ORIANA ROOM  
McCLURE'S RESTAURANT

454 St. Kilda Road

Price: \$5.50 per head

Reservations: Contact the Admin.  
Secretary. Phone 41-3535.



#### CONTEST CALENDAR

- 7th/8th October: VK-ZL-Oceania DX Contest (Phone Section).
- 7th/8th October: W.A.D.M. C.W. Contest.
- 14th/15th October: VK-ZL-Oceania DX Contest (C.W. Section).
- 14th/15th October: R.S.G.B. 21/28 Mc. Telephone Contest.
- 21st/22nd October: "CQ" W.W. DX Contest (C.W. Section).
- 28th/29th October: R.S.G.B. 7 Mc. DX Contest (Phone Section).
- 11th/12th November: R.S.G.B. 7 Mc. DX Contest (C.W. Section).
- 11th/12th November: OK C.W. DX Contest.
- 25th/26th November: "CQ" W.W. DX Contest (C.W. Section).
- 30th Dec. and 1st Jan. 1968: Ross Hall Memorial V.h.f./U.h.f. Contest.

refreshments at functions at the Divisional Rooms. Another improvement at general and v.h.f. meetings will be the addition of additional chairs which will increase the seating accommodation.

The W.I.C.E.N. representative reported that the first of the vehicles is almost completed and the second has been started. At the present rate of completion the vehicles should be available well before the coming summer season.

The Division's Annual Dinner will be held on Friday, 3rd November, at the Oriana Room, McClure's Restaurant, 55, Kilda Road, Melbourne. The charge of \$5.50 per head includes pre-dinner appetizers, the dinner and the service of a band to those wishing to dance. Don't forget, Friday, 3rd November, the Victorian Division's social event of the year. Until next month, 73, Cyril VK3ZCK.

#### EASTERN ZONE

Here we are again with the zone note. I regret having to start on a sombre note. We are sorry to note the passing of our ex-zone member, Mr. Robert Warragul, VK3ZAK (ex VK3ZAK of Warragul). Zone members were active in the jamboree on the Atr, they were 3B8, 3A2D, 3ZCQ (from Morewell), 3A2, 3ZAB and 3ZB were invited to the local State District Plan meeting on 3rd August. Our President ZIJCQ attended the communications meeting associated with the Disaster Plan meeting on 3rd August. Any news boys! Please let's have it. 73, Albert Cash, LZ883.

#### WESTERN ZONE

Bill Z2AK is now writing under the identity of the best antenna guide post—communications OM. V.h.f. bands are very active as usual. This has led to considerations of forming a club of the v.h.f. for the Home and interested S.W.'s. Also worthy of note was the use of v.h.f. bands for the recent Jamboree of the Air. Taking part were Tony Z2AL, Bill and Gordon ZAB, and a number of other boys who turned up at Z2AK's QTH, it was quite a popular concern. I have no doubt that the bands are present but can assure readers we are slowly moving towards v.h.f. Good to hear Bob 3ARM on 6 mhz! However, we do long for the day when we have a v.h.f. band which is not a v.h.f. band won't send themselves. 73, Jim Z2ME.

#### QUEENSLAND

##### IPSWICH AND DISTRICT RADIO CLUB

News for this month seems to be a bit scarce, possibly because we have spent most of the month in other call areas of VK and have not been in touch with local club members. However a little news has come to hand since I returned.

We were all sorry to hear of our Public Relations Officer's bout of the flu and hope it is well on the way to recovery by now. He was still very keen to answer to V.I.A. that proves he was still on the job—wag or no wag.

On my return to the club meetings, a lot of work was done. Our club has been meeting and will be gaining more new members—the more the merrier.

It was decided that with this change of summer, the club's 80 mhz Monday hook-up at 8 mhz will be held on the 1st of November. The QRN will soon make 30 mhz impossible to work, and a new trend for the hook-up has been discussed. The eventual outcome seems to be settled on 144 Mc and club members are now building and renovating the 8 mhz gear which has been hanging around gathering dust.

A possible get-together between Ipswich and Bundamba Radio Clubs has been mentioned to take place in the near future as a camp out week-end at a spot some half way between Ipswich and Bundamba. It has been met with a lot of enthusiasm from our club and final arrangements and announcements will be made when all is finalised. This could be the fore-run to a summer of activity for the two Radio Clubs and we hope the first of many more such get-togethers.

The Lv. station at Bunya Mountains was not long ago, strictly an informal visit. No tvs, problems, but it appears they were very welcome by the tech. on duty who lives alone in the forest hut and greets the party to the company to relieve the monotony. 73, Warren 4GT.



# CRYSTAL PRODUCTS

## QUARTZ CRYSTAL OSCILLATORS

Pye Pty. Ltd. engineers are designing a Series of Stable Crystal Oscillators within the range 1.5 Kc. to 100 Mc.

Range: 1.5 Kc. to 100 Mc.

Types now available are:—

XL687	....	1.5 Kc. to 6.0 Kc.
XL683	....	+6 Kc. to 50 Kc.
XL681	....	+50 Kc. to 150 Kc.
XL682	....	+150 Kc. to 525 Kc.
XL688	....	1 Mc. to 20 Mc.
XL690	....	+20 Mc. to 60 Mc.
XL691	....	+60 Mc. to 100 Mc.

These oscillators are of robust construction (using printed circuit board technique), reliable and of low cost.

The photograph shows the PYE XL683 as an example. Mounting is by the four holes in corners of the board. Alternately, if a "plug-in type" is required, an in-line socket can be supplied as an optional extra.

### SPECIFICATIONS

A typical example of the series is the XL688. These figures are general, closer tolerances can be obtained.

Frequency Range	....	1 Mc. to 20 Mc.
Supply Voltage	..	12 Volts D.C.
Current Drain	....	15 mA. maximum.
Output	....	1 Volt p. to p. min. into 1K ohms.
Frequency Accuracy	....	±0.001% (set at factory).
Freq. Temp. Stability	....	(Range 0°C. to +60°C.)
		±0.005% from 1 Mc. to 2 Mc.
		±0.003% from +2 Mc. to 20 Mc.
Dimensions	....	2" x 2.5" (5.08 x 6.35 cms.).

These oscillators are supplied complete with crystal and accurately adjusted to a specified frequency. Write for full details, without obligation, stating frequency and mounting.



PYE XL683 Oscillator  
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again the R.D. Contest has come and it seemed quite exciting. This time I got as I heard quite a few newcomers for the highest point rating. One chap the Antarctic regions seemed to be about what I heard as his X factor was quite high in 500's. If the boys in New Guinea are in fact doing this, it is a pity that the boys run for their money. Quite a rounded horse as I heard them on the morning exchanging numbers. The bands seemed to come in for a bit of M as each tried to work on the same money. Another few did not seem to keep the bands and worked and others did when the station called and informed that they had exchanged numbers previously for that band.

Although the bands seemed favourable at first, I now notice that the conditions have changed somewhat as the ship has moved. Very few stations being heard after 10.00. Maybe quite a few are resting on their laurels of the Contest.

y 4DV has been transferred out to where  
ows fly backward, etc. His signal now  
heard from Richmond, approx. 300 miles  
of our city of Townsville. Eric 4HN will  
be transferred to Proserpine from Darra,  
pe we can hook up once again Eric if  
the twisted pair. No news to hand as  
the various schools who seemed in the  
Scheme. T3, Bob 4HW.

Other month gone and it seems that we achieved quite a lot this last few weeks of it behind the scenes. Our time has been taken up with the conversion of the Pye Mk. 3s, about 10 of them. Some working and some are not, but probably by month the 8 mx QRM will be at an all level.

The subject of 6 mxx, quite a gang of younger members spent Sunday, 27th Aug., on mountain climbing expedition up Mt. Sun, about 80 miles north of Sandy. The planned route was to go to the top of it and ascend a 6 mxx station and be in the air by 18.30 mxx. However, at 1.30 they set up the station at 800 ft. The carrier a 60 ft. collapsible tower, batteries and a 6 mxx, enough means of balance and mountain side and assure me they will get half way up by lunch time. The signals were relayed by the exchange signals with Elliott Heads, 10 miles S.E. of Juniper Creek, 10 mxx. The island V.D. Field Day that was to be on 17th September.

Bonny, the newest call sign, is well on h.f. and v.h.f. Congratulations Jeff, who is running on the h.f. bands with a home-brewed transistorized putting green. The other unfortunate was the signal he got the other day, a few days ago of being given the order, or dirty big wipe off, when he into a well known early morning VK4 op. He was told in no uncertain terms to get the hell out of the band and on the p.p. Some of the remarks heard were: "He wouldn't even bother to switch the b.f.o." "Oh it's that new call sign from Handy, been on the air a few days, don't worry about it. He's back to the back to the inn" a.m. hook-up with duck talk."

fair go chapel. Perhaps he should have better, but youthful enthusiasm is a marvellous thing to behold and you, your years of experience behind you, at least have been polite.

ing the month Arch 41L got going on  
f. bands at long last. Nice to hear you  
Arch. See you on 6 msk soon. 73,  
AJM

He held the call sign VK4CW from 1934 and was very active for a number of years. He took a keen interest at this time in the Bundsberg Amateur Radio Club. However, after some years other interests occupied his time and he relinquished his call.

for some time now he has been living in retirement and has not enjoyed the best of health.

to his wife and daughter we extend our  
best sympathy.

The monthly general meeting of the VWS Division for August was held to a capacity gathering of members and visitors, so much so that extra chairs had to be brought in to accommodate everybody in the room. Little or no business was transacted on the inside, but with very little business, Divisional or Federal, the time was soon picked up and the meeting soon settled back for the business of the evening. A lot of interest to this annual event, a display of some commercial equipment as well. The pieces of equipment displayed by members were of the type that are of interest to all, and the one thing most noticeable was that at times it was difficult to part out the commercial gear from the amateur gear, which is sufficient praise in itself.

In order of presentation, Gilbert SQUX had fully transistorized s.a.b. transceiver; Murray SQUA a transistor power supply; Graham SZFL, MBE, etc. transistorised transmitter of 100 watts; Mike SZLW a transistorised mobile which he brought back from the U.S.A.; Bob SZDX a mobile car and 2 mx transmitter and converters; Bob SZMIMK a mobile after the fashion of the old days; Sallyhoop SZLH drawings on the blackboard, turned out to be a transistorised oscillator for tape practice, a real leg puller this one; Peter SZLW a mobile car and KWS transistorised receiver with a Command receiver, a 2 mx converter also using FETs, and an amateur band receiver using FETs, not quite completed; Alan SZLW a mobile car and KWS transistorised receiver; The Moorabbin Radio Club transistor receiver; Eric ZEDJ with a noise blinker using FETs, and two very old time recorders; John SZLW a mobile car and a vintage microphone; Keith HCL his first transmitter which he had recently discovered in the attic of his Queensland home; Steve SZLW a mobile car and a transistor receiver; John SNXX a capacitance meter; Joe Vardon, who was treasurer of the VKS Division around the 1960s, brought along a mobile car and a vintage microphone; Alan SZIP had a power amplifier and a GR modulation monitor; Trevor SZTM had a 4-trace stereo tape recorder that he had put a lot of work into; and finally, the evening's entertainment began with a slide show of several examples of the book-binding of the magazine into 13 monthly copies. Altogether an imposing array of equipment was shown, and one corner of the exhibition also gave a run down on the merits of the equipment displayed, it was no wonder that the meeting did not break up until about 10 p.m. I think we can safely say that not one member of the audience left the room until the meeting closed, and this is sufficient evidence of the interest and enjoyment provided at the success of the evening.

The three awards for the display of members' home constructed gear went to Gilbert 8GX, Graham 5ZJL and John 5NX, and to all the exhibitors goes the thanks of members present for such an enjoyable evening.

Could not but help notice when the pieces of equipment were being described by the owners, just how often they said that the various bits and pieces were given to them, or they scrounged them, etc., etc. I must have been a little unlucky in my time, because nobody ever gave me anything, probably this giving business is another variation of the well known often heard statement, "well filled junk box", another thing I never seem to have bumped into.

Heard on the W.J.A. broadcast that Frank Sinatra and Les Stryker were seen at the ballet—something I did not find out whether they were performers or only spectators, but looking in my crystal ball, I will hazard that Frank was there because his daughter is an instructress, and Les was there because his daughter was a performer. I hope that I am right, because what a pair they would make as performers!

On the same morning I heard a slip of the tongue from Uncle Joe Stij, of Whyalla, who blantly said that "these tubes usually take about 200 amps," and then very hurriedly corrected the statement, no doubt to avoid any unpleasant enquiries from any direction. Apparently his two \$675 in parallel were suffering from one bung lung—a very known Chinese complaint but I hate to think just what they could have been suffering from.

Another quad has appeared in the evening sky—although I don't know if three wise men reported it—but it belongs to our genial Federal Councillor—what a joke!—none other than Geoff STY. A band of willing (?) helpers made the job much easier, with Geoff cracking his Simon Legree type whip at appropriate moments. What a bully!!

Talking of quads, I believe that one will shortly appear at the QTH of Rex SDO. I will have to put a stronger fuse in my receiver.

ing aerial" this rumour is true, because his signal at the moment almost melts the piece of 944 at present acting as a fuse. Have you warned them in VKS yet, or not? I have written a letter to the VKS Journal in an effort to dispose of the gear belonging to the late Jim SJK and was more than impressed with the number of replies that I received, and also the ideas that came from them. Since then I have been told that Geoff STY advertised an article in the Journal, and received a lot of replies. I have not seen the Journal for a week after he sold it. Plus the fact that Uncle Tom SYL notified all readers of the Journal of the Institute's stock of technical equipment. I am sure that you will not resign. As much as I dislike Ye Ed's, I cannot put bat Brian BCA on the back for the hard work that he puts into his "baby", to say the least. I am sure that you will like Mr. Marlene. Such hard work deserves success.

Heard an unexpected caller-back on the W.L.A. broadcast the other Sunday, none other than Roy SAC, the young looking old-timer. Have not heard him much on this frequency lately, but believe that he can be heard loud and long on 53.1 Mc., and often at that. He called in to see me the other afternoon and looks younger than ever.

The R.D. Contest seemed to bring out all and sundry on various bands, and some of the figures I heard being exchanged certainly showed how keen everybody could be for their State. Coo. SEZ, of whom I have heard nothing for quite a long time, appeared to be in the thick of it, although from what I heard, he apparently was in a seditious mood, making no secret of the fact that he preferred c.w. to any other model!

Gilbert SGX apparently found time from his many disposal duties to make over 200 contacts and spent the night in bed at that. He is definitely a wise man in not believing in all night sittings, particularly when he can make a good score without it.

Someone commented on the fact that I still only get two points for contacting a YK6 on "The Thing" in the specimen log sheet in "A.R." This is of course only spite on the part of "Ye Ed", as my working any State on such a mode would be worth at least 20 points, to say nothing of the comment which would follow!

I am still a success, even though I could not fit in a talk on commercial radio to the Black Forest Methodist Men's Fellowship on the date set out. Uncle Tom 37L still wants me to oblige, so I will be on deck in November. Tomatoes should be out of season by then, so all I will have to contend with will be possibly expensive cigarettes and possibly a couple of dirty looks. I intend to take up the position of danger money with Nunky, but not with much hope. I fear,

Reg 3M2 is definitely one of my mob. I heard him giving out an imposing list of contacts that he had participated in that day and concluded with "don't knock a.m. after that". A stout fellow is our Reg, even if he owes allegiance to VKs these days, always remember that he is an ex VKs, which probably accounts for him being such a stout fellow!

George S.V. he of Thunderbird fame, heard calling a G on 14 Mc. the other late afternoon, and when contacted seemed to be having quite a deal of trouble in holding him. I could not even hear the G, so it would appear that the beam, plus George's equipment, was right on the ball.

me. Keith, AZ, is someone that I have not heard of quite a while. Tuning across 1 Mc, the other Sunday afternoon I heard him in QSO with Tom ZEZ of Newcastle. Judging by the strength of Keith's signal, it is probably just as well I do not hear him often, as I certainly would not hear anything else around that frequency. Why don't you accept Tom's invitation to visit Newcastle, Keith? Sounds like he would give you a good time. Nobody here invites me to Newcastle, or anywhere else for that matter, all they do is to tell me where I can go to!

Heard Mc ING, indeed a stranger to me, have not heard him for years, in contact with Ron SUW the other early evening on 7 Mc. Both stations were mobile, Mac at North Adelaide and Ron at Marlon. As I was about in the middle of both I had a good chance to judge the strength of the signals and as far as I am concerned they broke about even. Nice to hear you Mac after all this time.

Listening up in the c.w. end of 7 Me, the other early evening I bumped into a whacking sign-1 belonging to SILY, so much so, that I thought he was a newcomer to the district. I probably just over the back fence. Checking up in the Call Book, I was amazed to find that he was at Bridgewater, which after all is a little bit further than over the back fence to me. He is a stranger to me, I don't even know his christian name, but the book says

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## WESTERN AUSTRALIA

Hi there customers! Well that was a contest that was, of course I refer to the R.D. It seemed to me that scores generally were somewhat higher than in other years, but perhaps we have better wait for the publication of results before sticking the old meek too far out. Was rather surprised to hear Kerry GCA, operating on 40 m. and receiving a winning call. There was a well known member of the Division who was lucky enough to borrow some fairly high power sideband gear, complete with vnc, wait for the publication of results. Being a smart cookie he put in a bit of practice before the big day but ran into trouble with odd "chatter" in his receiver. Calling for help from the owner who marched in armed with quite an assortment of test gear. One quick look and he burst out laughing (good sport that he was, because the problem was overcome with a simple twist of the wrist. It appears that the bewildered borrower was reading the V.F.O. dial incorrectly—clot! Boy, was my face red!

Heard that Bob 6KN was operative on 80 m. again recently. This was welcome news because a previous contest indicated that he had been reclining in a hospital bed somewhere in Victoria.

Our Broadcast Officer, Bob 6RE, reports that the new 6WT transceiver is performing reasonably well, but tends to feedback with certain antenna conditions.

At this time, writing, school holidays are in full swing and many members are taking the opportunity to sit around the countryside. One happy wanderer is Doug 6EP, who has shrugged off the shackles of the worldly world to visit the "big smoke" and points of interest in the south west. With a bit of luck he might look up some of the GMP who is allegedly visiting much the same territory.

By a masterpiece of timing, Bob 6RE was able to squeeze in a bout of chicken pot, just prior to the contest. He understands that he plans to do a bit more to his transistorised rig in the next couple of weeks.

Bob 6RE has been preparing the shack in preparation for a visit from the you know who, and is also hopeful of working a bit of 80X on 15 and 20 m. Oh to be a "Chalkie" when holiday time is on!

John 6BYB managed to escape from Kalgoorlie for a brief week-end visit, but found time to hear about Bill 6WY for a couple of hours during R.D.

During a recent QSO with John W4DPI, he enquired as to the whereabouts of some of the "old-timers" like Shinkie 6FW, 6KX, Frank 6FL and Alan 6MO. By the way, what did it happen to Nod?

Came across a strange voice the other night while casting my Keith note on 30 m. It turned out to be Bob 6KE, putting in a re-appearance after an absence of some years. Operating a "black bin" top—hope you were able to iron out the "bugs" on 40 mcs Keith and welcome back.

A report just to hand from one of my more reliable carrier pigeons suggests that Giff 6VG has entered the city limits from far off with, with a bit of luck.

After beating a hasty retreat from the shack, I can hardly wait to get my hot little fingers on these keys. For this reason, the usual haste is Bob 6BT, who has just appeared on 80 m. using "The Thing". What with a new receiver and all, he is really hitting the high spots. Well, that wraps it up for the time being, 73, Ross 6DA.

## TASMANIA

Poley YCK will soon be moving QTH to a spot just north of Launceston. Although this seems like a gain of one for the Northern Zone, the numbers will stay the same, as Henry THH will be moving to the south to Glenorchy. Congratulations to David, ex-2ZMD, on dropping the Z and now being active on h.f. as THD.

On 10th September a group of Launceston operators were going aeronautical mobile with equipment on both the 2 and 4 m. net frequencies. They were to be piloted by Norm 7ZRG and were to head towards Flinders Island, in the hope of working into VE3.

While talking about net frequencies, Jim 7JO has at last broadened his outlook and come onto 8 m. We hope his outlook stays broad and we see him on 3 m. before long.

Just to finish up, the usual "funny story": A VKT worked a G3 recently on 30 m. Both were using vox and both had their dogs in the shack. The VKT, who was a veterinarian, and started several valleys of barks flying to G-land and back again. No doubt they will be carping of using vox in future. Once bitten - 73, 7ZLP.

that his initials are C. W., so it was fitting that he was on c.w. Anyway, with a signal like that he won't ever be a stranger to me again!

Listened into the usual slack between Albol 3J and Jack 5LN the other evening on 1 Mc. but did not stay very long with them, they were too active and energetic for me. Albol was up to his neck with weedkiller, getting ready for the tomatoes, and Jack was torn between painting and rushing out to frighten away several millions of "spoggers". His calculation, not mine—who were booking their seats in the orange train, was that I was quite exhausted after a few minutes listening to such activity, and left them to it. However, what is Albol doing growing tomatoes? Has he heard about my venture into the lettuce field? This will take some working!

Warrant Officer Len Baker—Len 6GB, 6OC, the you—retired this month from the R.A.F. after 37 years' service, but his tradition of service will be carried on by his son John, who was recently commissioned as a technical officer. Len was honored with a parade of 34 City of Adelaide Squadron at Edinburgh Airfield on the Sunday of his retirement, and in recognition of his service to the United Kingdom and throughout Australia. We dip our heads, Len—never knew you to be so famous—photo in the paper and all!

The "Chief Duck" on 30 m.—Phil 6NN to you—decided that he would construct a little gadget to make operation in the R.D. Contest a little easier, to wit, a combination of a leaded pen and a microphone, which would leave his hands free for the clerical work involved. It turned out to be an outstanding success from all points of view, and as he rallied his army of duck talkers to the cause, he was indeed a proud man. However, pride cometh before a fall, when his young daughter brought him a cup of coffee at some point through the contact he clean forgot his little gadget and swiftly put the cup to his lips, to which the microphone was attached. The result was that "Chief Duck's" abdomen received large chunks of hot coffee. Being on "The Thing," it was not possible to resolve just what exactly he said, although I am given to understand that no such words have as yet ever appeared in his a.b. column! You beauty!

Incidentally, I note with some suspicions, that he received, for the second year in succession, a great number of \$8 from a certain female station in VK2. Thank the fates again that I am pure 73!

73, de 6FB—Pandy to you.

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